

BLACKBOARDS  
&  
SCHOOL  
EQUIPMENT



American Seating Company

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Mike Jackson, FAIA



# School Apparatus & Supplies



Illustrated Catalogue  
Number Thirty-Eight

Copyright, 1913

## American Seating Company

218 S. Wabash Ave., Chicago

NEW YORK  
15 E. 32nd Street

BOSTON  
70 Franklin Street

PHILADELPHIA  
1225 Arch Street

PITTSBURGH  
Bessemer Bldg.

Branch Offices in All Principal Cities



GENERAL OFFICES AND SALESROOMS  
218 S. Wabash Ave., Chicago



# Educational Equipment

**Foreword** Every teacher, principal, superintendent and member of a School Board, whether it be in the largest metropolitan city or the smallest district school, realizes now, or is fast coming to realize, that adequate equipment of the school room is absolutely essential to successful teaching according to the high ideals and standards now demanded by intelligent parents and taxpayers.

As the standards and requirements have been raised in the course of study, a long forward step has also been taken as regards the use of appropriate apparatus and the quality of supplies.

It is now considered good policy and strict economy to secure the best talent obtainable and carefully avoid any handicap through lack of sufficient and appropriate equipment.

The Catalogue presented herewith was compiled for the benefit and guidance of buyers with this situation in mind. As it is impossible for all to be sufficiently acquainted with the different grades of Blackboards and Supplies on the market to buy entirely on judgment, School Supplies are most frequently bought on faith in the supply house and its judgment as to the best values.

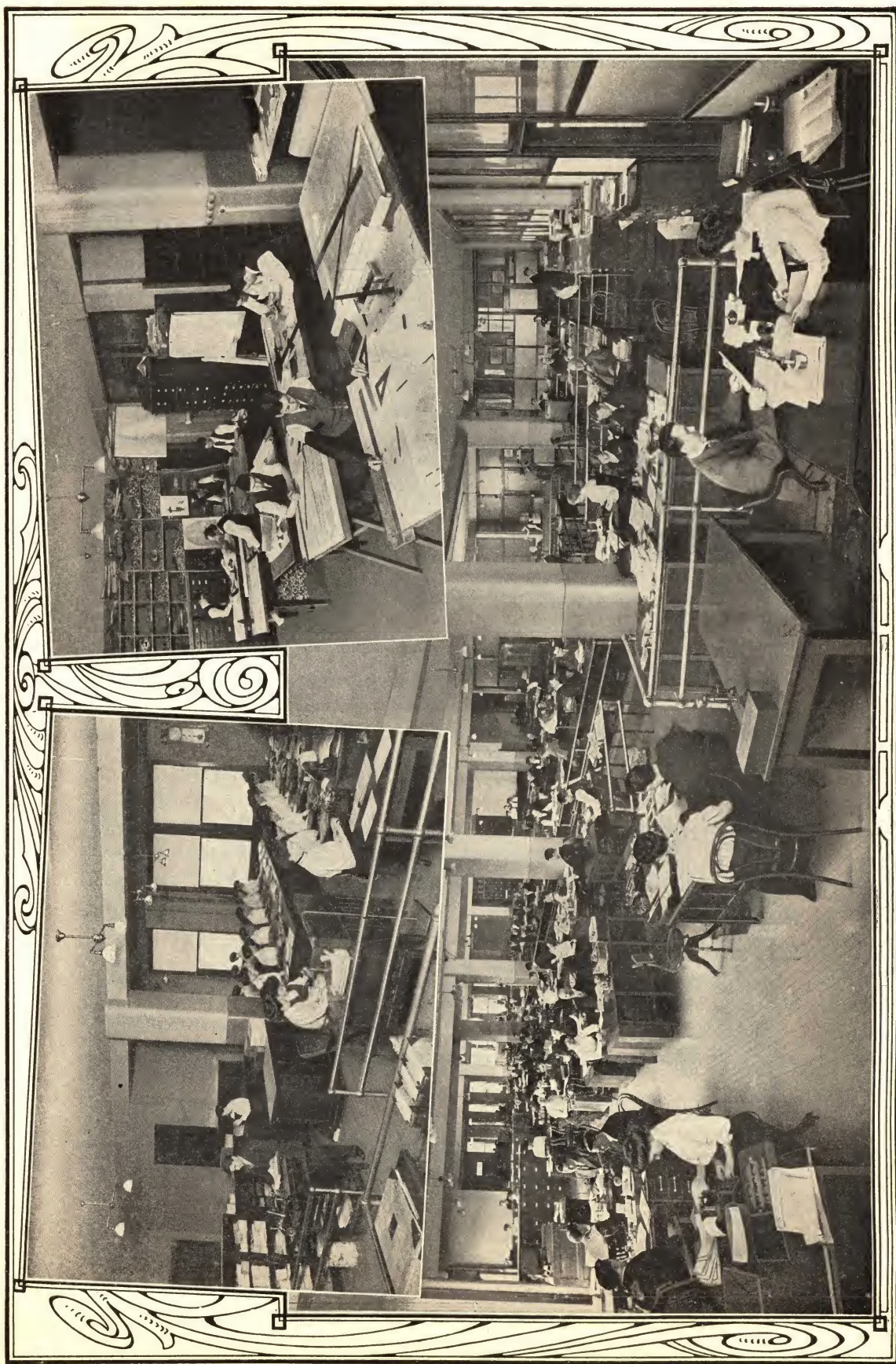
We are too well known among the buyers of school equipment to be required to offer proof of our reliability and absolute integrity. If, however, anyone should not know the character of our institution, we would refer to any Commercial Reference Agency book, Chicago Association of Commerce or any State Superintendent of Schools.

We do as we agree and guarantee satisfaction.

Orders are filled and shipments made as promptly as consistent with accuracy and intelligent handling. Our central location is a decided advantage.

We earnestly invite you to place your orders with us and assure you business-like and pleasant trade relations.





Interior Views of our General Offices at 218 S. Wabash Ave., Chicago.



**Our Facilities** Anyone who is so situated as to make it impossible to walk into a firm's place of business and secure what he needs, appreciates what it means to mail an order to some other city and wait for goods to come.

It is easily perceived that not only must manufacturers and dealers have the right goods, and be able to sell them at the right prices, but they must have **FACILITIES** to handle the orders they get.

The difference in service—which you measure by the length of time you have to wait for goods and the accuracy with which your orders are filled—depends entirely upon the facilities of the seller.

Stock is an important item in filling orders promptly, and it takes warehouse facilities and ample capital to keep it up.

Many articles are of such a nature that a large stock cannot be profitably carried, so the question of **BUYING QUICKLY** must be considered. This calls for a location in a central market where such goods are sold. Then you have the problem of packing and shipping goods without delay by the most direct route to save transportation charges.

All these different operations require the employment of intelligent clerical assistants, who take an interest in their work, and know their business. The management must be on the alert and vigorous in the conduct of such satisfactory service. It must provide modern equipment, economical and efficient systems of records, and in every way serve the buyer.

That is what we call **FACILITIES**, and **WE HAVE THEM**. Because we have them we are getting more business every year and keep on growing.

Our School Furniture is shipped from our factories in Grand Rapids, Mich., Racine, Wis., and Buffalo, N. Y.; all supplies from our warehouse in Chicago. These locations should be considered in placing your orders, as freight charges and time are often very important factors.

You are invited to visit our offices and our salesrooms at any time you happen to be in Chicago, New York, Boston or Philadelphia. We are always glad to welcome our patrons and will gladly extend the convenience of our facilities in the use of desks, phones and stationery.

**AMERICAN SEATING COMPANY**

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## A Word About Globes

The study of Geography is one of the most important in the school course, and it is essential that the subject should be presented to the pupils in such a way as to be thoroughly understood by them.

It is almost impossible to form a correct idea of the shape of the earth from flat maps. For this purpose, a Globe forms the truest, most natural and only accurate representation of the earth. If the first impression is the most lasting, why not create the correct impression of this subject at the beginning?

By means of the Globe, the correct idea can be obtained as to the relation of the different places on different parts of the earth; their relative position as to latitude and longitude; distances apart, etc. A definite knowledge of the lines and circles, such as Tropics, Meridians, Ocean Currents, etc., can also be obtained from Globes, but not from flat maps.

The manufacture of Globes requires skilled, experienced workmen, and the most accurate machinery. Our Globe Balls are very strong and substantial and the maps are perfectly matched and mounted. They are covered with several coats of a special varnish, giving them a beautiful finish, and can be cleaned with a damp cloth without injuring them in the least.

The maps are made by the well-known geographers, W. and A. K. JOHNSTON & CO., Ltd., of Edinburgh, Scotland, and are unequalled for accuracy of detail, permanency of coloring and artistic design.

By comparing our Globes with others, their superior quality is apparent at first glance, as the purchaser will at once note the firmness and evenness of the Globe Balls, their uniform finish, weight and correct balance.

The stands are of heavy metal, with bright Japanese copper finish, and the design is ornamental and attractive.

With each Globe we furnish a manual entitled "How to Use Globes," a concise but elaborate treatise on the Globe and its various uses.



## School Globes



PLAIN STAND

Heavy Metal Base, Bright Japanese Copper Finish. Will Not Tarnish.

All of our Globes are fitted with metal hour circles, on which are stamped the twenty-four hours of the day. These circles can be set to indicate instantly the time of day anywhere in the world.

No. 210.	8-inch .....	\$ 5.00
No. 220.	12-inch .....	9.00
No. 240.	18-inch .....	30.00

## School Globes



### WITH STATIONARY MERIDIAN

**Heavy Metal Base, Bright Japanese Copper Finish. Will Not Tarnish.**

This style of Globe is furnished with a metal meridian, on both sides of which are stamped the different degrees of latitude. By simply revolving the globe ball the latitude of any city or place is easily ascertained.

No. 212.	8-inch.....	\$ 6.50
No. 222.	12-inch.....	11.00
No. 242.	18-inch.....	36.00



## School Globes



### WITH MOVABLE MERIDIAN

**Heavy Metal Base, Bright Japanese Copper Finish. Will Not Tarnish.**

Globes with movable meridians have a distinct advantage over the other kind, as the globe ball can be quickly changed to bring any portion of the globe uppermost. Ordinarily when examining the Southern Hemisphere, it has been necessary to lift the globe, or, in the large sizes, to stoop in order to do so. This is obviated by using the globes with movable meridians, as the balls can be turned to any position desired. When this position is obtained they can be fastened by means of a thumb screw.

No. 213.	8-inch .....	\$ 7.50
No. 223.	12-inch .....	12.50
No. 243.	18-inch .....	36.00

## School Globes



### FULL MOUNTED, WITH STATIONARY MERIDIAN

Heavy Metal Base, Bright Japanese Copper Finish. Will Not Tarnish.

A globe with a meridian to which is fitted a horizon circle, is called a Full Mounted Globe. The horizons on our globes are fitted with the latest and most improved prints, which show at a glance the difference of time between any two points in the world.

No. 214.	8-inch.....	\$ 8.50
No. 224.	12-inch.....	13.50
No. 244.	18-inch.....	38.00



## School Globes



### FULL MOUNTED WITH MOVABLE MERIDIAN

Heavy Metal Base, Bright Japanese Copper Finish. Will Not Tarnish.

Globes with movable meridians have a distinct advantage over the other kind, as the globe ball can be quickly changed to bring any portion of the globe uppermost. Ordinarily when examining the Southern Hemisphere, it has been necessary to lift the globe, or, in the large sizes, to stoop in order to do so. This is obviated by using the globes with movable meridians, as the balls can be turned to any position desired. When this position is obtained they can be fastened by means of a thumb screw.

No. 215.	8-inch .....	\$ 9.50
No. 225.	12-inch .....	15.00
No. 245.	18-inch .....	40.00

## Library Globes



No. 18.

### No. 18. LIBRARY

Diameter, 18 inches; 45 inches high.

Fitted with movable meridian, hour circles, quadrant, glass socket or rubber casters.

Stand plated in antique copper.

Price .....\$65.00

No. 12. Same as above, 12 inches in diam-

eter. Price..... 32.50



No. 130.

### No. 130. LIBRARY. Diameter, 12 inches.

Adjustable Steel Mounting. Base can be broadened and height of the globe regulated as desired.

Japanese Copper Finish.

Price .....\$16.00

No. 131. Same as No. 130, with meridian and

horizon. Price..... 18.50



## Colonial Globe



18-inch Diameter.

One of the handsomest globes manufactured. Stands 45 inches high, movable gold-plated or solid brass meridian. The globe and horizon can be rotated on pedestal.

Pedestal is mounted on ball-bearing casters.

Stands made of oak in any finish, or mahogany, as preferred.

### Price

With gold-plated meridian.....	\$225.00	With solid brass meridian.....	\$200.00
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## The Suspension Globe



This globe is on the order of the school globe series, Nos. 210 to 245, without the base and with a pulley suspension. This form of mounting has been demonstrated to be the best method ever devised for school use. The globe can be seen by the pupils all over the room and conveys to their minds the correct position of the earth, floating in space. It also conveys to the pupils' minds an accurate conception of the earth as a whole, its shape, rotation, revolution, inclination, distribution of land and water, comparative sizes of continents and oceans, etc., and illustrates perfectly the following phenomena: Day and Night, Change of Seasons, Twilight, Sun's Declination.

The globe is suspended by means of a strong cord, operating over pulleys, with a counterbalance weight at the other end and can be raised or lowered at will. When not in use it is up out of the way and there is no danger of its being knocked over and broken.

The meridian is graduated on both sides and has a beautiful oxidized copper finish. The clutch holding the globe is so arranged that the meridian ring can be easily rotated. Each globe is fitted with an hour circle and a teacher's manual is furnished free. The counterbalance weight can be either a metal ball, as illustrated, which can be used to show the moon's phases, or an ordinary sash weight.

There are two sizes, 12-inch and 18-inch, but we recommend the larger size, as it is over three times the size of the other, making it clearer and more distinct, yet just as easily handled in this form.

Where geography is taught in more than one room and it is not convenient to have a globe in each one, extra sets of hangers can be purchased so that one globe will suffice.

### LIST PRICES

18 inches diameter, with Moon Ball Weight.....	\$32.00
18 inches diameter, with Sash Weight.....	30.00
12 inches diameter, with Moon Ball Weight.....	16.00
12 inches diameter, with Sash Weight.....	15.00
Extra sets of Hangers, including Moon Ball, for 18-inch.....	2.50
Extra sets of Hangers, including Sash Weight, for 18-inch.....	1.90
Extra sets of Hangers, including Moon Ball, for 12-inch.....	2.10
Extra sets of Hangers, including Sash Weight, for 12-inch.....	1.60





### THREE-INCH PAPER WEIGHT GLOBE

(Patented 1891.)

Mounted on oxydized copper or nickel-plated stand, as shown in cut.

The map is made from new plates and shows all the important political divisions and large cities.

This globe makes a handy, useful and unique desk ornament and paper weight.

Packed in paper carton. Price.....\$1.00



### SIX-INCH WIRE STAND GLOBE

Mounted on substantial wire stand.

Maps constantly kept up-to-date, showing all the latest geographical changes.

Each globe packed in separate paper carton. Price.....\$0.50

## Betts' Portable Globe

This globe consists of a frame work of steel wire, covered with cloth, on which is printed a map of the world. It can be expanded or collapsed at will. The cloth cover is of a durable material, made expressly for the purpose, and to secure permanence, the coloring is produced at the press with varnish colors. The globe is about fifteen inches in diameter, being four feet in circumference. For convenience in suspending it by a cord, the top of the axis is furnished with a ring. Weight less than ten ounces. A neat box is provided in which the globe may be deposited when not in use. Price.....\$5.00

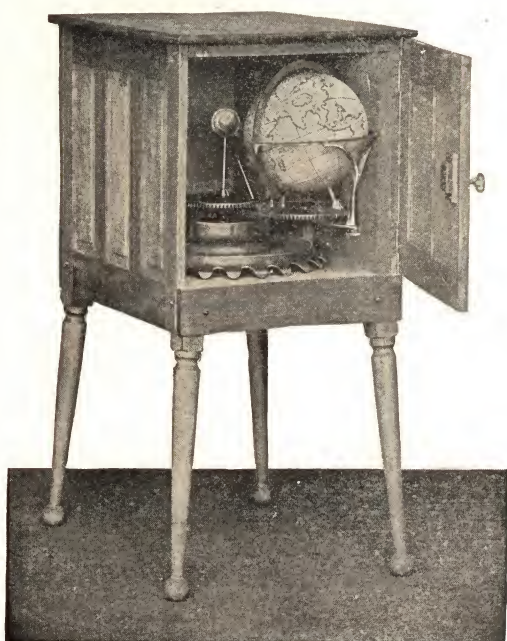


## Box-Stand Globe

This is the most convenient of all globes, as by simply lifting the lid, the globe appears and gradually takes its proper upright appearance. As the lid closes the globe gradually disappears in the same manner. The attachments are sufficient for all the class work done with a meridian globe. All of the metal parts are nickel-plated and the workmanship is thorough. The box is of hardwood, nicely finished.

Price, complete.....\$10.00

## Victor Tellurian



Showing Tellurian in Cabinet Case and protected from dust and damage.

As a Tellurian it illustrates:

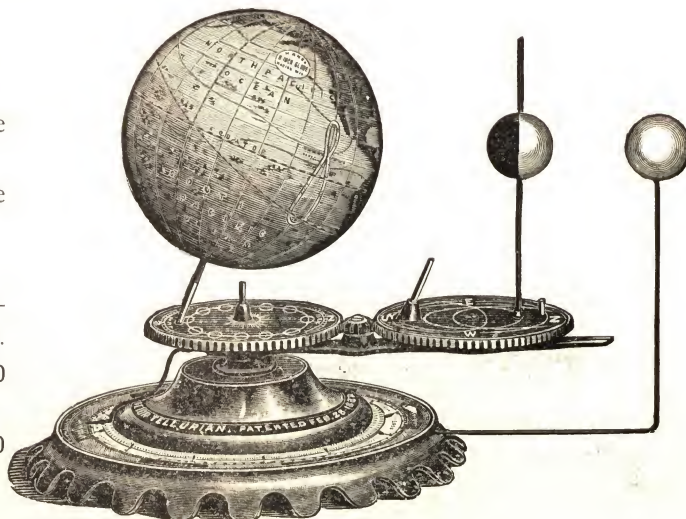
- First—Rotation of Earth upon its axis.
- Second—Revolution of Earth around the Sun
- Third—Increasing and decreasing length of day and night.
- Fourth—Why days and nights are six months long at the poles.
- Fifth—Why days and nights are of equal length at the equator.
- Sixth—Why the Earth's surface is divided into five zones.
- Seventh—Change of seasons—how produced.
- Eighth—Why it is cold in Winter and hot in Summer.

The best and simplest Tellurian made. Cannot get out of order. Always ready for use. Handsome nickeled base. Very best globe ball. Latest maps. Globe Ball eight inches in diameter.

As a Lunarian it illustrates:

- First—The phases of the Moon.
- Second—Cause of Eclipse of the Sun.
- Third—Cause of Eclipse of the Moon.
- Fourth—Cause of the Tides.
- Fifth—Why there are two flood-tides each twenty-four hours.
- No. 1. Above Globe in box. \$20.00
- No. 2. Same Globe in Cabinet Case, as illustrated. 25.00

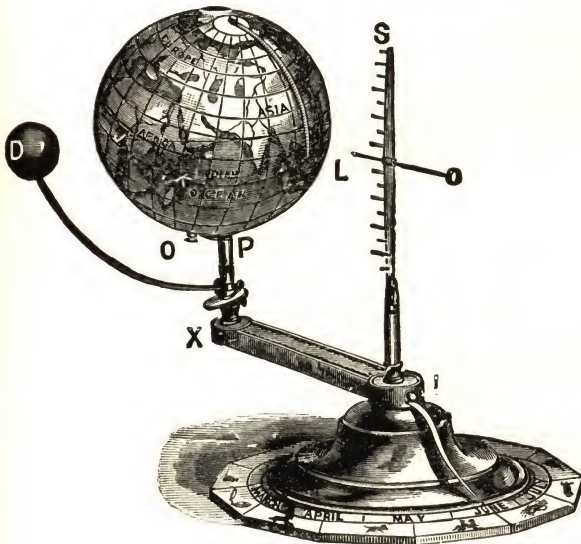
**WRITE FOR SPECIAL  
CIRCULAR.**



As a Lunarian.



## The Colored-Zone Lunar Tellurian No. 101



AS A TELLURIAN

The Sun and Moon attachments can also be removed in a moment.

No better apparatus ever made. Should be in every school. Is very useful for family instruction. Simple, durable, cheap, efficient. Ten minutes' use of this Tellurian will give more information than an hour's talk could do without it.

The earth globe of the Tellurian, besides its astronomical service, is available for all geographical purposes. It gives the political divisions, isothermal lines, ocean currents, etc. The construction of the Lunar Tellurian is such that it cannot be set up wrong.

### ILLUSTRATES CLEARLY:

1. Revolutions: The Earth around the Sun and the Moon around the Earth.
2. Rotations: The daily of the Earth and the monthly of the Moon.
3. Eclipses: Solar and Lunar; total, partial, annular; why and when they occur.
4. The inclination and parallelism of the Earth's axis, and how these produce the change of seasons, fix the limits of the zones, vary the length of day and night, etc.
5. Day and Night—their variance of length with latitude and season; the nightless days and dayless nights of the polar zones; the unvarying length of equatorial days.
6. The Sun's rising north of east in summer, and south of east in winter. The "Midnight Sun."
7. The twilight variations for all the latitudes and seasons, and the cause of the variation.
8. Longitude and its relation to Time—The Solstices and the Equinoxes.
9. The Precession of the Equinoxes.
10. The Equation of Time—sun fast and sun slow of clock, and the reasons.
11. The passage of the Sun through the signs of the Zodiac.
12. The Moon's Apogee and Perigee.
13. The falling back of the moon's nodes in the Ecliptic.
14. The Moon above and below the Ecliptic.
15. The "wet" and "dry" moons.
16. The Phases of the Moon and her Libations; the Moon's long days and nights.
17. The philosophy of the Tides.

In hinged locked case, with handbook..... \$25.00

## Map Cases



THE "GLOBE" SPRING-ROLLER MAP CASE (Closed)

The Globe Spring Roller Map Case is designed especially for use in schools in which the maps are to be used in one room only. The cases are made of oak, nicely finished, and furnished with lock and key. Dust proof. They are made in different sizes to hold four, six or eight maps. By means of an ingenious device in the end any map can be instantly removed or adjusted.



THE "GLOBE" SPRING-ROLLER CASE (Open)

All of our cases are fitted with Hartshorn's Improved Spring Map Rollers.



## Map Cases—Continued



THE "DIAMOND" SINGLE CASE



THE "DIAMOND" SINGLE CASE

With map partly drawn down

The Single Case is the most satisfactory and convenient method of mounting maps when they are to be carried from room to room. Each case is fitted with a single spring roller, and when the map is not in use, it is drawn up in the case, thus insuring its being kept perfectly clean. The back of the case is hinged, so that the map can be easily removed and another one substituted. They are made of oak, nicely finished, and are light, strong and convenient. Each case is fitted with hooks and eyes for hanging.



THE "VICTOR" ROLL-FRONT CASE

The Victor Roll-Front Case is fitted with a dust-proof curtain front that works on the same principle as the curtain on a roll-top office desk. This style of case occupies less wall space, as there is no hinged door to drop down. It is dust-proof, and the curtain, being easily operated, is more apt to be kept closed when not in use.



## American School Series Wall Maps



In recent years there has been an increasing demand for a high grade, large size and large scale map that could be procured at a moderate cost. The American School Series Wall Maps were placed on the market by us to meet this demand, and are the lowest priced maps for their size and quality on the market.

They are printed from the same plates as the well known Columbia Series, issued by Rand, McNally & Co., the foremost map publishers of the country.

They contain the latest geographical information, the plates being corrected and revised to date, and for coloring and artistic design are unsurpassed. The maps are of large size and large scale, the lettering and outlines clear and distinct, being easily discernible across the widest school room.

They are as nearly correct in detail as it is possible to make a map for general use, and, being printed on a single sheet, do not show unsightly seams when mounted.

The Series consists of the following seven maps:

United States .....	66"46"	Africa .....	46"66"
Mercator's World .....	66"46"	North America .....	46"66"
Europe .....	66"46"	South America .....	46"66"
Asia .....	66"46"		

When a set of four maps is ordered, we put in the following, but any four may be selected at the same price: **United States, Mercator's World, Europe, Asia.**

### PRICES.

Any Map mounted on common rollers.....	\$ 4.00
Any Map in "Diamond" Spring-Roller Case.....	8.00
Any 4 Maps in "Globe" Spring-Roller Case.....	30.00
Any 4 Maps in "Victor" Spring-Roller Case.....	35.00
Complete set 7 Maps in "Globe" Spring-Roller Case.....	50.00
Complete set 7 Maps in "Victor" Spring-Roller Case .....	60.00
Complete set 7 and State Maps in "Globe" Spring-Roller Case .....	52.50
Complete set 7 and State Maps in "Victor" Spring-Roller Case .....	65.50



## Universal Series Wall Maps



The Rand, McNally Universal Series Maps were placed upon the market to supply the demand from the rural and smaller sized town schools for an up-to-date, dependable set of maps at a low price. They are the lowest priced standard school maps on the market at the present time, and, at the same time, maintain the highest standard of geographical accuracy, comprehensiveness, clearness of detail and artistic makeup. They are prepared with the same care as the higher priced maps, and are printed from the same plates as the Rand, McNally Globe Series, but the mounting is less expensive.

The following important features are incorporated in these maps:

Longitude is given as reckoned both from Greenwich and Washington.

The length of the degree of longitude is indicated in different latitudes.

On the margins of all maps are indicated other important cities which are in the same latitude.

The map of North America shows a large scale map of Cuba.

The map of Asia shows an inset map of the Philippine Islands, and a special map of Manila Bay.

The map of the United States shows the southern portion of Canada, all of Mexico and Central America, and contains inset maps of Puerto Rico, Hawaii, Alaska and the Philippine Islands.

The series consists of the following eight maps:

United States .....	41"x52"	Eastern Hemisphere .....	41"x58"
Western Hemisphere .....	41"x58"	Europe .....	41"x52"
Asia .....	41"x52"	Africa .....	41"x52"
North America .....	41"x52"	South America .....	41"x52"

When a set of four maps is ordered we put in the following, but any four may be selected at the same price.

United States.  
Western Hemisphere.

Europe.  
Eastern Hemisphere.

### PRICES.

Any Map mounted on Common Rollers.....	\$ 2.00
Any Map in "Diamond" Spring-Roller Case.....	4.00
Any 4 Maps in "Globe" Spring-Roller Case.....	14.00
Any 4 Maps in "Victor" Spring-Roller Case.....	18.00
Complete set 8 Maps in "Globe" Spring-Roller Case.....	22.00
Complete set 8 Maps in "Victor" Spring-Roller Case .....	28.00

Any State Map not over 42 inches wide can be substituted for any Map in above sets.



## The "Standard" Series School Maps



The features which make these Maps the standard for school use are: Bold Legible Type, Prominent Political and Physical Features, Time Dials on each margin, Prominent Coloring, etc. All unnecessary detail is eliminated and the points of educational value are very strongly brought out.

They are chiefly adapted for use in the school room on account of the clear and distinct lettering, bold and well defined outlines, and the coloring which is so contrasted that the political divisions are easily distinguishable. Time discs on every meridian give the time of the day when noon at Greenwich.

The maps are lithographed in oil colors on the best grade of cloth-backed stock and the coloring will not fade.

The series consists of the following eight maps.

United States.....	48" x 41"	Asia .....	48" x 41"
Hemispheres .....	48" x 41"	Africa .....	36" x 52"
Mercator's World.....	48" x 41"	North America .....	36" x 52"
Europe .....	48" x 41"	South America.....	36" x 52"

When a set of four maps is ordered, we ship the following, but any four maps may be selected at the same price:

United States.  
Hemispheres.

Europe.  
Asia.

### PRICES

Any Map mounted on Common Rollers.....	\$ 2.50
Any Map in "Diamond" Spring-Roller Case .....	4.00
Any 4 Maps in "Globe" Spring-Roller Case .....	15.00
Any 4 Maps in "Victor" Spring-Roller Case.....	20.00
Complete set, 8 Maps in "Globe" Spring-Roller Case.....	25.00
Complete set, 8 Maps in "Victor" Spring-Roller Case.....	30.00

Any State Map, not over 48 inches wide, can be substituted for any of the above maps in sets.

## Bacon's Geographical Nature Studies

### RELIEF MAPS

These maps have been designed to enable the younger pupils to acquire an elementary knowledge of the physical features of the different continents. They show the different mountain ranges, lakes, watercourses, etc., without any of the commercial features and are especially adapted to the study of physical geography in the lower grades. They are prepared on the best scientific principles, and while nothing of importance has been omitted, they are not over-crowded with unnecessary detail.

The series consists of the following five maps:

Europe .....	41" x 31"	South America.....	31" x 41"
North America.....	31" x 41"	Africa .....	31" x 41"
Asia .....	41" x 31"		

Price, mounted on common rollers. Each.....\$1.50



## The New Unrivalled Series

W. & A. K. Johnston's Inexpensive American Edition Mounted on Heavy Cloth-Backed Enameled Stock.



This new series of Johnston's Maps has met with unparalleled success and is becoming more popular every year. For a reliable up-to-date map at a low price it is especially adapted for use in the rural and smaller sized town schools.

The outlines are bold and well defined, the lettering clear and distinct and their accuracy is guaranteed by W. and A. K. Johnston & Co., Ltd., the foremost geographers of the world.

The following special features are incorporated in these Maps: Length of rivers given in miles, heights of mountains given in feet, elevation of lakes given in feet, mean annual temperature at each capital. Time of day when noon at Greenwich. The Maps are lithographed in oil colors, on the best grade of cloth-backed stock, and are warranted never to fade.

The series consists of nine maps, each 41"x54" as follows:

United States, Eastern Hemisphere, Western Hemisphere, Europe, Asia, Africa, North America, South America, Mercator's World.

When a set of four maps is ordered we put in the following, but any four may be selected at the same price:

Eastern Hemisphere, Western Hemisphere, United States, Europe.

### PRICES

Any Map mounted on Common Rollers....\$ 2.00	Any 8 Maps in "Globe" Spring-Roller Case.\$27.00
Any Map in "Diamond" Spring-Roller Case 4.40	Any 8 Maps in "Victor" Spring-Roller Case. 32.00
Any 4 Maps in "Globe" Spring-Roller Case 17.20	Set of 9 Maps in "Globe" Spring-Roller Case 30.00
Any 4 Maps in "Victor" Spring-Roller Case 22.00	

Any State Map, not over 42 inches wide, can be substituted for any of the above maps in sets.

## W. and A. K. Johnston's District School Series

These Maps are similar in all respects to the regular Johnston Maps except that they are smaller. The figures first mentioned indicate width from east to west.

Africa—27x33 in. 190 miles to the inch.	Scotland—27x33 in. 10 miles to the inch.
America (North and South)—27x33 in. 270 miles to the inch.	South America—27x33 in. 180 miles to the inch.
Asia—33x27 in. 210 miles to the inch.	United States and Mexico—33x27 in. 100 miles to the inch.
Australia—33x27 in. 90 miles to the inch.	Western Hemisphere—27x33 in.
British Isles—27x33 in. 21 miles to the inch.	World, Mercator's Projection—33x27 in.
Canaan and Palestine—33x27 in. 10 miles to the inch.	
Eastern Hemisphere—27x33 in.	When set of six is ordered, unless otherwise specified, we send the following: Hemispheres, United States, Europe, Asia, Africa and America.
England and Wales—27x33 in. 13 miles to the inch.	
Europe—33x27 in. 100 miles to the inch.	
Hemispheres (Eastern and Western)—33x27 in.	
India—27x33 in. 75 miles to the inch.	
Ireland—27x33 in. 10 miles to the inch.	
North America—27x33 in. 190 miles to the inch.	
St. Paul's Travels—33x27 in. 47 miles to the inch.	

### PRICES

Any Map mounted on Common Rollers....\$ 2.50	
Any Map mounted in Single Spring-Roller Case .....	4.50
Set of six in Spring-Roller Case.....	24.00

## State Maps

	Size in inches; east to west measurement given first.	Price on Common Rollers.	Price in Diamond Case.
Alabama, U. S. Gov't. Post Office.....	31x45	\$2.65	\$4.00
Alabama, Rand-McNally county.....	44x56	3.60	5.40
Arizona, U. S. Gov't. Post Office.....	32x40	2.65	4.00
Arkansas, county and railroad.....	40x58	1.40	2.80
Arkansas, Rand-McNally sectional.....	36x29	2.40	3.85
California, county and railroad.....	40x58	1.40	2.80
California, Rand-McNally county.....	44x56	3.60	5.40
Colorado, U. S. Gov't Post Office.....	34x50	2.65	4.00
Colorado, Cram's Superior Series.....	40x50	1.80	3.30
Florida, U. S. Gov't. Post Office.....	36x48	2.65	4.00
Florida, Rand-McNally sectional.....	36x48	2.40	3.85
Georgia, county and railroad.....	40x60	1.40	2.80
Georgia, Rand-McNally county.....	44x56	3.60	4.50
Idaho, Wyoming and Montana, U. S. Gov't. Post Office..	55x44	4.85	7.00
Illinois, county and railroad.....	40x58	1.40	2.80
Illinois, Rand-McNally sectional.....	33x54	2.40	3.85
Illinois, Cram's Superior Series.....	40x50	1.80	3.30
Indiana, county and railroad.....	40x58	1.40	2.80
Indiana, Rand-McNally sectional.....	36x48	2.40	3.85
Indiana, Cram's Superior Series.....	40x50	1.80	3.30
Iowa, county and railroad.....	60x40	1.40	3.80
Iowa, Rand-McNally sectional.....	48x36	2.40	3.85
Iowa, Cram's Superior Series.....	50x40	1.80	3.30
Kansas, county and railroad.....	60x40	1.40	3.80
Kansas, Rand-McNally sectional.....	54x32	2.40	4.60
Kansas, Cram's Superior Series.....	50x40	1.80	3.30
Kentucky, Rand-McNally county.....	66x46	4.00	7.00
Kentucky, Cram's Superior Series.....	50x40	1.80	3.30
Louisiana, U. S. Gov't. Post Office....	39x34	2.65	4.00
Louisiana, Rand-McNally county.....	44x56	3.60	5.40
Maine, U. S. Gov't. Post Office.....	34x50	2.65	4.00
Maine, Cram's Superior Series.....	32x44	1.80	3.30
Maryland, county and railroad.....	60x40	1.40	3.80
Michigan, county and railroad.....	41x58	1.40	2.80
Michigan, Rand-McNally sectional.....	46x66	2.40	3.85
Michigan, Cram's Superior Series.....	40x50	1.80	3.30
Minnesota, county and railroad.....	41x58	1.40	2.80
Minnesota, Rand-McNally sectional.....	41x58	2.40	3.85
Minnesota, Cram's Superior series.....	40x50	1.80	3.30



## State Maps—Continued

	Size in inches; east to west measurement given first.	Price on Common Rollers.	Price in Diamond Case.
Mississippi, U. S. Gov't. Post Office.....	31x45	\$2.65	4.00
Mississippi, Rand-McNally sectional.....	39x57	2.40	3.85
Missouri, county and railroad.....	40x58	1.40	2.80
Missouri, Rand-McNally sectional.....	44x48	2.40	3.85
Missouri, Cram's Superior Series.....	50x40	1.80	3.30
Nebraska, Rand-McNally sectional.....	58x34	2.40	4.60
New England States, county and railroad.....	40x58	1.40	2.80
New Jersey, county and railroad.....	40x58	1.40	2.80
New Mexico, U. S. Gov't. Post Office.....	30x36	2.65	4.00
New York, county and railroad.....	58x40	1.40	3.80
New York, Rand-McNally county.....	66x46	4.00	7.00
New York, Cram's Superior Series.....	50x40	1.80	3.30
North and South Carolina, U. S. Gov't. Post Office....	68x46	5.35	8.25
North Dakota, county and railroad.....	60x40	1.40	3.80
North Dakota, Rand-McNally sectional.....	33x23	2.40	3.85
North Dakota, Cram's Superior Series.....	50x40	1.80	3.30
Ohio, county and railroad.....	40x58	1.40	2.80
Ohio, Rand-McNally sectional.....	51x44	2.40	3.85
Ohio, Cram's Superior Series.....	40x50	1.80	3.30
Oklahoma, Rand-McNally county.....	44x56	3.60	5.40
Oklahoma, Cram's Superior Series.....	40x50	1.80	3.30
Pennsylvania, county, railroad and township.....	60x40	1.40	3.80
Pennsylvania, Rand-McNally county.....	58x41	4.00	7.00
Pennsylvania, Cram's Superior Series.....	50x40	1.80	3.30
South Dakota, county and railroad.....	60x40	1.40	3.80
South Dakota, Rand-McNally sectional.....	33x23	2.40	3.85
South Dakota, Cram's Superior Series.....	50x40	1.80	3.30
Texas, county and railroad.....	40x58	1.40	2.80
Texas, Rand-McNally county.....	66x46	4.00	7.00
Utah, U. S. Gov't. Post Office.....	30x41	2.65	4.00
Virginia and West Virginia, U. S. Gov't Post Office...	46x69	5.30	7.00
Washington, Rand-McNally sectional.....	60x40	2.40	4.60
Washington, Cram's Superior Series.....	62x45	1.80	3.80
Wisconsin, county and railroad.....	40x58	1.40	2.80
Wisconsin, Rand-McNally sectional.....	27x38	2.40	3.85
Wisconsin, Cram's Superior Series.....	36x48	1.80	3.30

When ordering state maps, always specify style and size wanted.

## Blackboard Outline Maps



The best grade of slated canvas is used in these maps and the outlines of the different states and countries are distinctly and permanently represented. By the use of white or colored crayons, teachers may locate the rivers and mountains, and fill in the outlines from day to day as they progress in the study of Geography. In History classes the teacher is given the opportunity to locate, in the presence of the pupils, the more important movements of historical events, such as the acquisition of territory, formation of states,

battlegrounds, etc., which may be done with the use of colored crayons. No live teacher can afford to be without the "Blackboard Outline Map."

Each map is mounted on heavy plain rollers.

United States, 48x72 inches .....	\$4.00
Europe, 48x54 inches .....	3.75
Asia, 48x54 inches .....	3.75
Africa, 48x54 inches .....	3.75
North America, 48x54 inches .....	3.75
South America, 48x54 inches .....	3.75

## Twentieth Century Reversible Map of the United States and World

This is the largest map ever printed on one sheet; size, 47x67 inches. It is reversible, the United States being printed on one side and the World on the other. One of its chief features is that along each side border of both maps is printed an index of over two thousand principal cities and towns, giving their population and showing how to find them instantly on the map.

The United States map shows all railroads, counties, large cities, towns and railroad stations, and is an up-to-date map in every respect. The World map shows all the latest discoveries and changes in Africa, China, South America and Alaska. Distances between principal parts of the world, cable lines and ocean currents are shown by distinct colors. It also shows, on a larger scale, special maps of "Our New Possessions."

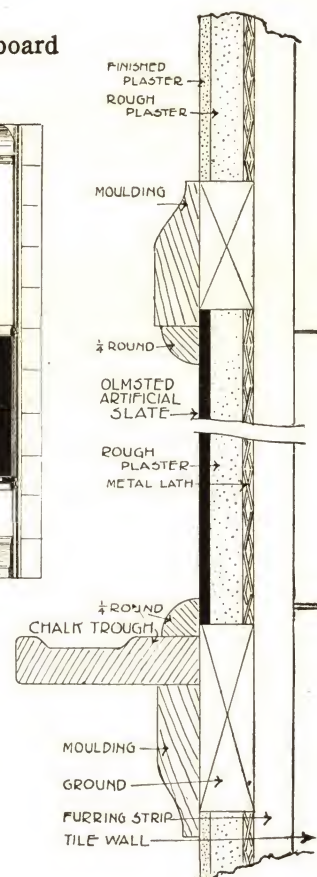
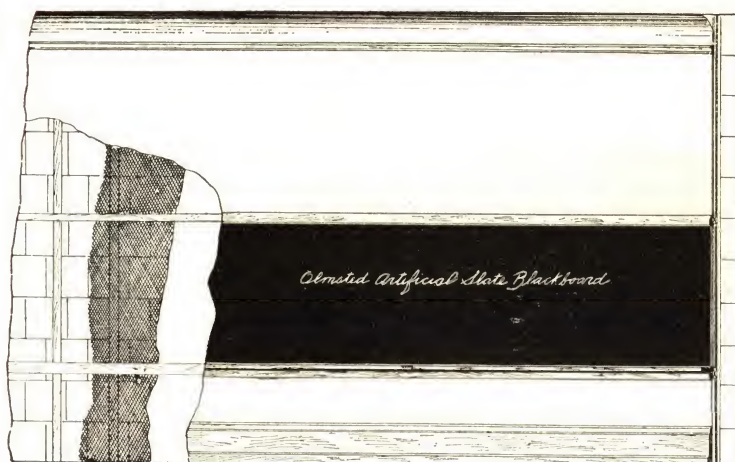
Mounted on Common Rollers.....	\$ 2.00
The two Maps Mounted in One Spring Roller Case .....	12.50



## Olmsted Artificial Slate

(Trade-Mark "Champion")

### The Original Seamless Stone Blackboard



In the equipment of the new school building the question of **blackboards** is one of the most important to the School Board. Much of the successful working of the school depends upon the blackboards, and it is essential that a first-class article should be furnished.

In the **Olmsted Artificial Slate Blackboard** we have incorporated all of the good points of other boards and eliminated all of their defects. It is entirely different from any other so-called "composition," "artificial slate" or other plastic boards, these latter being generally made of lamp-black, mixed with plaster.

The **Olmsted Artificial Slate Blackboard** is composed of magnetic iron ore, mixed with ground slate, and set with a stone cement. It is applied to the brown coat of plaster in successive coats with a trowel, and takes the place of the hard or finish coat. In troweling to the desired finish the iron ore is brought to the surface, giving just sufficient bite to take the crayon nicely, and, at the same time, make a surface almost as hard as iron. It is therefore much more durable than slate and not so easily scratched or marred.

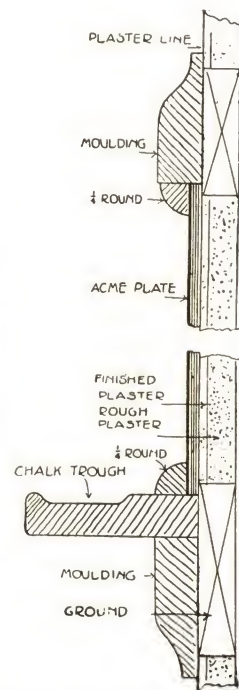
School Boards contemplating the erection of new school buildings should get our proposition on the **Olmsted Artificial Slate Blackboard** and have it included in the Architect's specifications, as we can show you that, compared with Slate, the saving will be over 33 1-3 per cent.

The **Olmsted Artificial Slate Blackboard** is in use in many of our leading city schools:

- BECAUSE it is superior to natural slate.
- BECAUSE it is less expensive than natural slate.
- BECAUSE it is built any length without joints.
- BECAUSE it is welded to and becomes part of the wall.
- BECAUSE it is without flints, ribbons or coarse grains.
- BECAUSE it is of a beautiful unfading color.
- BECAUSE it is composed of stone and steel.
- BECAUSE it is the most durable of all boards.
- BECAUSE it is absolutely noiseless.

The blackboards are always installed by our own expert workmen, under our personal supervision, and are **fully guaranteed** against all defects in material or workmanship.

## Acme Plate Blackboard



Acme Plate is a product of wood pulp and fibrin slate composed as follows: Pulp is produced from wood board and New England Spruce pressed into layers of uniform thickness and built up in transverse sections of 4 layers of wood pulp and one layer of **fibrin slate**, all laminated together under heavy hydraulic pressure with a waterproof cement, securing an almost indestructible blackboard.

The surface of Acme Plate is superior to that of any other board of a similar character, owing to its extremely hard foundation, which is most important in any blackboard. Our **Fibrin** slate surface described on another page is a sulphite compound product coated with a special mineral slate preparation, insuring a superior wearing and erasing surface. Our construction also eliminates troubles heretofore experienced in warping, due to moisture in the walls.

Acme Plate weighs only 1 lb. per sq. ft., as compared to slate weighing 5 lbs., insuring the lowest freight charges. Furthermore, owing to its construction, all breakage is avoided in transit, doing away with one of the great annoyances occasioned on natural slate shipments.

### Setting Up

Anyone can erect our Acme Plate Blackboard, as it is adaptable to any kind of walls, brick, lath, plaster or bare studding, and we are prepared to furnish the necessary moldings as outlined on another page. Full printed directions are also sent with each shipment.

### Guarantee

Our Acme Plate Blackboard is fully guaranteed, and each and every piece is stamped with our trademark name, "Acme Plate."

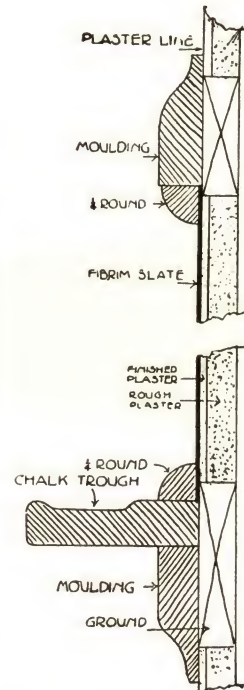
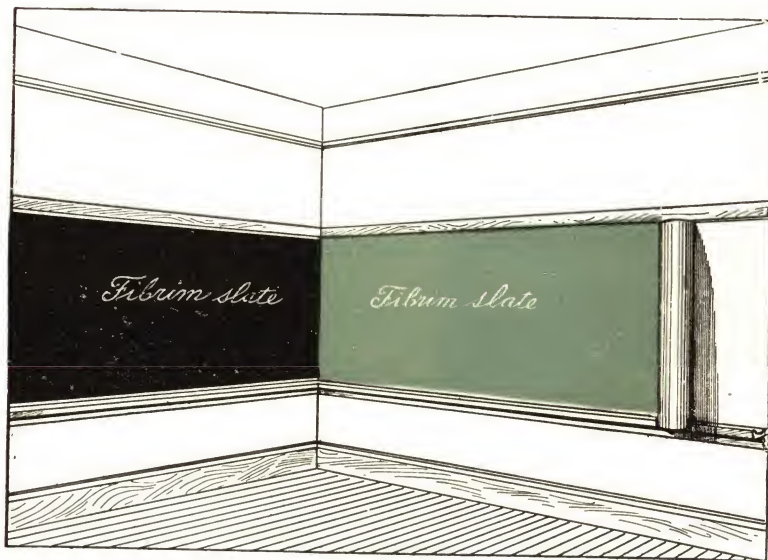
### Sizes and Price

Regular stock sizes carried in stock are 3, 3½ and 4 feet wide and any length up to 12 feet. We cut to any size ordered, but the fraction of a foot is charged as a full foot. For example: If 5¼ feet is one of the dimensions, we charge for 6 feet.

Price of Acme Plate, black, per sq. ft.....	\$0.18
Price of Acme Plate, green, per sq. ft.....	.20



## Fibrim Slate Blackboard



### Superior Wearing and Erasing Surface.

This Blackboard is a Sulphite Compound product coated with a special mineral slate preparation insuring a smooth and durable writing and erasing surface. It is adapted to any smooth wall, securely applied with a special paste provided for that purpose and gives the appearance of **slate blackboard** built continuous without seams or objectionable joints.

Where old blackboard surfaces need renewing, our **Fibrim Slate** Blackboard fills the exact requirements, and its superior qualities combined with its low cost has brought it into universal demand. For new buildings, it is recommended where an inexpensive, first-class, durable blackboard is desired, and it is guaranteed to give perfect satisfaction.

### COST OF DELIVERY

Fibrim slate weighs less than  $\frac{1}{4}$  lb. per sq. ft., enabling us to ship at minimum expense either by freight or express. Comparing the cost of delivery charges with slate brings the total cost of this material to such a low estimate that it is worthy the consideration of every purchaser of blackboards. **Any one can place the blackboard on wall.** Full directions sent with each shipment.

### MADE IN TWO COLORS—BLACK AND GREEN

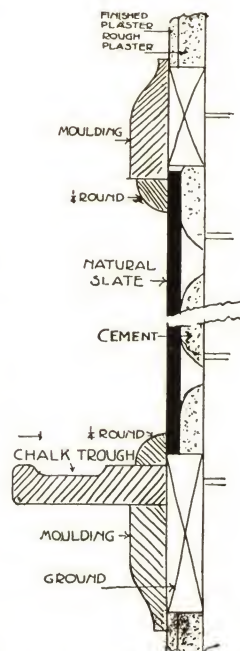
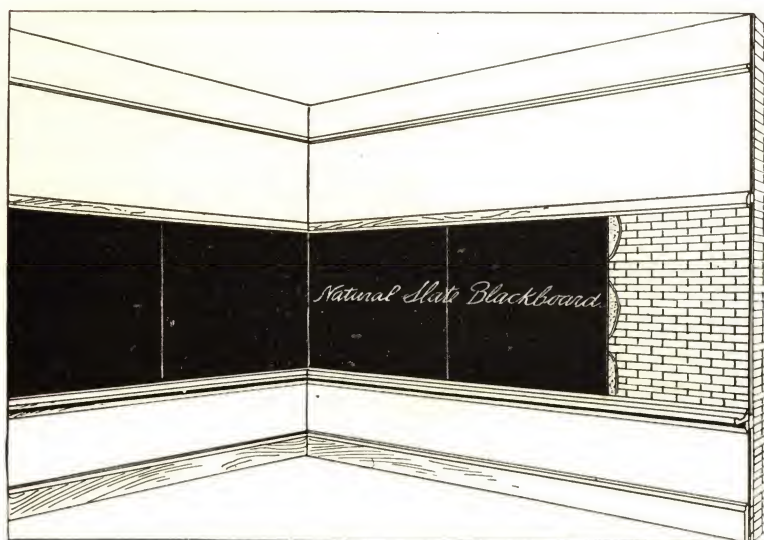
Our green color is especially recommended, all objections in the way of reflected light having been overcome by the soft green finish. Samples of both colors will be furnished you upon request.

### DIMENSIONS AND PRICES

We carry in stock three widths, 3,  $3\frac{1}{2}$  and 4 feet, and furnish any length in rolls up to 100 feet. There is no waste in ordering this material, as we can cut to the exact size desired.

Price of Fibrim Slate, Black, per sq. ft. ....	\$0.14
Price of Fibrim Slate, Green, per sq. ft. ....	.16
Victor Paste, per gal. ....	1.00

## Natural Slate Blackboards



This is the Best Slate Quarried, Having a Uniformly Black Color, Being Free from Knots, Curls and Ribbons.

### IT IS HAND FINISHED.

The Unusually Fine Texture Admits of a Very Smooth Finish, Leaving No Pores to Fill With Chalk Dust.

Standard widths: 3, 3½, 4 feet. Average thickness: Three-eighths of an inch.

When ordering give the size of each space, for example, 1 space, 12 feet 4 inches by 3 feet. 1 space 3 feet 4½ inches by 3 feet 6 inches. 1 space, 10 feet by 4 feet.

In filling these spaces we use the longest slabs that can be shipped to advantage, thus making the least number of joints. Each slab is perfectly jointed to make the length of board required, and the several slabs when placed end to end give the appearance of one solid blackboard.

We replace gratis at quarry all boards broken in transit.

### PRICES

3 feet wide, per square foot.....	\$0.20
3½ feet wide, per square foot.....	.22
4 feet wide, per square foot.....	.24

## Chalk Trough and Mouldings



No. 11.



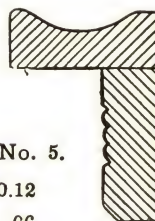
No. 1.



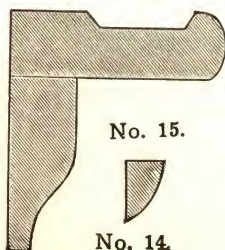
No. 3.



No. 4.



No. 5.



No. 15.

No. 14.

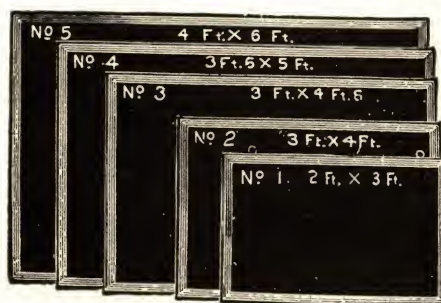
No. 11. Oak Moulding. Per foot.....	\$0.12
No. 14. Oak Moulding. Per foot.....	.06
No. 15. Oak Trough. Per foot.....	.15
No. 1. Moulding for top and ends of any blackboard. Per foot....	\$0.06
No. 3. Moulding for covering joints. Per foot .....	.03
No. 4. Moulding for a special finish or for holding stone slate in place. Per foot .....	.02
No. 5. Chalk Trough. Per foot.....	.10



## Style B—Blackboards—For Wall, Easel or Table

Style "B" Blackboards are made of Acme Plate, slated both sides. They can be furnished with both sides black, both sides green, or black on one side and green on the other. Numbers 1 to 5 are slated both sides black. Numbers 11 to 15 are slated both sides green. Numbers 21 to 25 are slated black on one side and green on the other.

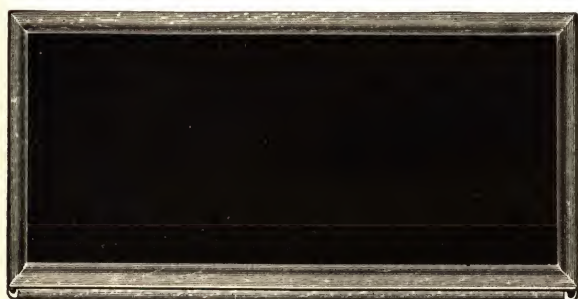
The frames are of hardwood, nicely finished.



No.		No.		No.	
1.	2 x3 feet...\$ 4.00	11.	2 x3 feet...\$ 5.00	21.	2 x3 feet...\$ 5.00
2.	3 x4 feet... 6.00	12.	3 x4 feet... 7.00	22.	3 x4 feet... 7.00
3.	3 x4½ feet... 7.00	13.	3 x4½ feet... 8.00	23.	3 x4½ feet... 8.00
4.	3½x5 feet... 9.00	14.	3½x5 feet... 10.00	24.	3½x5 feet... 10.00
5.	4 x6 feet... 11.00	15.	4 x6 feet... 12.00	25.	4 x6 feet... 12.00

## Style C—Blackboards

Style "C" Boards are made of Acme Plate Blackboard. Slated one side and framed with No. 11 Moulding and No. 15 Trough.



			Black.	Green.
No. 1.	2 x3 feet.....	\$ 4.00	\$ 5.00	
No. 2.	3 x4 feet.....	6.00	7.00	
No. 3.	3 x4½ feet.....	7.00	8.00	
No. 4.	3½x5 feet.....	9.00	10.00	
No. 5.	4 x6 feet.....	11.00	12.00	
Odd Sizes, per square foot.		.75	1.00	

## Style D—Reversible Blackboard

Style "D" Blackboards are the most complete and perfect portable blackboards, suitable for private schools, Sunday schools and lecturers. They are made of Acme Plate, slated both sides, and can be furnished either black on both sides, green on both sides, or black on one side and green on the other. They reverse instantly and can be taken apart in a moment. Numbers 1 to 4 are slated black on both sides. Numbers 11 to 14 are slated green on both sides. Numbers 21 to 24 are slated black on one side and green on the other.

The frames and standards are of hardwood, nicely finished.

No.		No.		No.	
1.	3 x4 feet...\$12.00	11.	3 x4 feet...\$13.00	21.	3 x4 feet...\$13.00
2.	3 x4½ feet... 13.00	12.	3 x4½ feet... 14.00	22.	3 x4½ feet... 14.00
3.	3½x5 feet... 15.00	13.	3½x5 feet... 16.00	23.	3½x5 feet... 16.00
4.	4 x6 feet... 18.00	14.	4 x6 feet... 19.00	24.	4 x6 feet... 19.00



## A Practical, Inexpensive, Durable Blackboard, Ready for Use



Under no conditions can the marking surface of our Slated Cloth be detached from the canvas itself. You may bend it, or rub it, or pound it. The surface still stays there and always will, and will last, and mark well, and erase cleanly for a great many years. The surface never scales.

### Slated Cloth

Is the blackboard for district schools. It is always reliable and fits every emergency. It comes ready for use. It can be put up on old slated walls, on plastered or ceiled walls; it can be tacked on, glued on or pasted on. It will not scale or crack or peel off. It is impervious to water and will not tear. It has a perfect erasing and marking surface, and will last for years. It can be cut to any size to fill odd spaces. It can be shipped safely and the charges for freight on it are next to nothing.

Slated Cloth is made in 12-yard lengths—about the quantity that the average school wants. We cut it, however, in lengths to suit, where less than twelve yards is wanted.

We also manufacture this cloth in a green shade, this color being more restful to the eyes.

#### Prices

	Slated 1 Side.	Slated 2 Sides.
Per linear yard, 36 inches wide, black.....	\$0.75	\$1.00
Per linear yard, 48 inches wide, black.....	1.00	1.25
Per linear yard, 36 inches wide, green.....	1.00	....
Per linear yard, 48 inches wide, green.....	1.25	....

### Style A—Blackboards to Roll Up

#### Slated Two Sides.

No. 1.	2x2 feet .....	\$1.00
No. 2.	3x3 feet .....	1.60
No. 3.	3x4 feet .....	2.00
No. 4.	3x5 feet .....	2.60
No. 5.	3x6 feet .....	3.00
No. 6.	3x7 feet .....	3.40
No. 7.	4x4 feet .....	2.60
No. 8.	4x5 feet .....	3.00
No. 9.	4x6 feet .....	3.40
No. 10.	4x7 feet .....	4.00
	Other sizes, per square foot.....	.20

Slated one side 10 per cent less than above prices.



Made of slated cloth.

This makes a fine portable blackboard. Rolls up tight like a map and is complete with rings and hooks for hanging.



## Liquid Slating



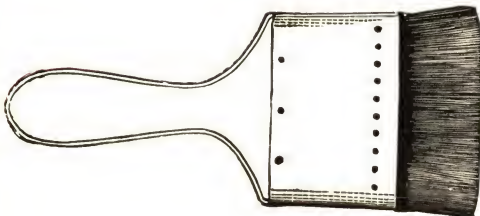
An absolutely pure Slating of the **best** quality. Guaranteed to make a perfect black-board surface that will last for years.

It is waterproof and not affected by heat or cold. Warranted not to crack, blister nor glaze.

### LIST PRICES

	Regular				Alcohol			
	Gal.	1/2 Gal.	Quart.	Pint.	Gal.	1/2 Gal.	Quart.	Pint.
Black .....	\$4.00	\$2.00	\$1.25	\$0.75	\$ 8.00	\$4.00	\$2.50	\$1.50
Green .....	5.00	2.50	1.50	.90	10.00	5.00	3.00	1.80

## Brushes for Slating



Made Expressly for This Purpose

2-inch .....	\$0.50
3-inch .....	.75
4-inch .....	1.00
6-inch .....	3.00
8-inch .....	4.00
12-inch .....	6.00

## Crayon Compasses

Mahogany. Fine brass mountings. Legs 18 inches long. Adjustable chalk holder. Made with steel pointed foot, also with rubber foot on ball point to protect the blackboard. The best compass for black-board work.

### PRICES

No. 1. With rubber foot on ball point .....	\$2.00
No. 2. With steel pointed foot .....	2.00
No. 3. Plain .....	1.50



## Crayon Holders

Keep the hands clean and save breakage of crayon.  
Price, per dozen.....\$0.80





Acme Dustless Crayon, being composed of entirely vegetable products, is absolutely harmless. Its principal component is starch, and no mineral or other injurious article is used in its manufacture. Being entirely vegetable, it has a tendency to absorb moisture, thus giving it a specific gravity which causes the residue, when erased from the blackboard, to fall directly into the chalk trough, instead of floating in the atmosphere to be drawn into the lungs, settle in the eyes or on the clothing of the pupils and teachers, as is the case with common chalk dust. It is dustless, noiseless and makes a clean, clear, white mark. It does not bind and is economical, outwearing from four to six of the common chalk.

#### Prices

Single gross .....	\$0.45
Case of twenty-five gross.....	9.50

### The Hygieia Dustless Crayon



The "Hygieia" Dustless Crayon is rapidly becoming the most popular of school crayons. It is not an experiment, but the result of years of experience in the manufacture of this line. It is superior to and will outlast the ordinary dustless crayon and is guaranteed to be satisfactory in every way. These crayons are made of the purest and best grade of material obtainable and there is nothing injurious in their composition. They make a smooth, clean and distinct mark, which is easily and permanently erased, and do not injure or grease the blackboard. They are uniform in quality, antiseptic, dustless, durable and economical.

Price, per gross.....	\$0.45
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### The Hygieia Dustless Colored Crayon

The colored crayons made under this brand are of the same high grade of materials as the white. The colors are rich and brilliant, and can be used on any blackboard without injuring or greasing. They are uniform in color and texture; mark smoothly; do not bind and are easily erased. They are economical, outwearing any other dustless crayon manufactured. Eighteen solid colors.

#### Prices

Ass't'd colors, 1 gross in a box, per box	\$1.50	Dark Green, 1 gross in a box, per box..	\$1.50
Ass't'd colors, 12 sticks in a box, per box .....	.10	Light Yellow, 1 gross in a box, per box.	1.50
Crimson, 1 gross in a box, per box.....	3.25	Medium Yellow, 1 gross in a box, per box .....	1.50
Scarlet, 1 gross in a box, per box.....	3.00	Burnt Sienna, 1 gross in a box, per box .....	1.50
Ultramarine Blue, 1 gross in a box, per box .....	1.50	Dark Yellow, 1 gross in a box, per box .....	1.50
Light Blue, 1 gross in a box, per box...	1.50	Purple, 1 gross in a box, per box.....	1.50
Medium Blue, 1 gross in a box, per box	1.50	Umber, 1 gross in a box, per box.....	1.50
Dark Blue, 1 gross in a box, per box...	1.50	Dark Red, 1 gross in a box, per box...	1.50
Light Green, 1 gross in a box, per box..	1.50	Magenta, 1 gross in a box, per box.....	1.50
Medium Green, 1 gross in a box, per box .....	1.50	Black, 1 gross in a box, per box.....	1.50



## An-Du-Septic Dustless Crayons



This crayon has proved entirely satisfactory since it was first placed on the market and is becoming more extensively used every year. It has raised the standard of blackboard work to its highest point of effectiveness and value to classes, at the same time minimizing the labor and eliminating the discomfort to teachers, because it is dustless, noiseless, makes a clean, clear, white mark; does not grease or scratch the board; does not bind, thus facilitating rapid work; is economical and can be erased easily, permanently and absolutely.

Packed in one-gross wood boxes—25 gross in case. Price, per gross.....\$0.50

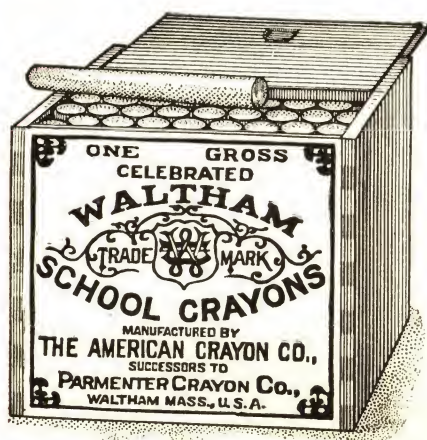


The Alpha Dustless Crayon is a thoroughly refined chalk crayon and will not injure any kind of blackboard. It is manufactured in three grades and adapted for all classes of work. The three grades are marked respectively "S" (soft), "M" (medium), and "H" (hard); the "M" grade being generally used for school work. Unless otherwise specified the "M" (medium) will be sent.

It is durable, does not scratch or glaze the board, and is dustless. It does not soil the hands or clothing and its shape and size make it perfectly efficient for rapid and skillful work. A single gross of this crayon will last as long as six gross of the common chalk.

### PRICES

Single gross .....	\$ 0.50
Per case of twenty-five gross.....	10.00



### Common Chalk Crayon

#### White

Single gross box.....	\$0.25
Fifty gross case.....	5.25
One hundred gross case.....	10.00

#### Yellow or Pink Enameled

Single gross box.....	\$0.30
Fifty gross case.....	12.00
One hundred gross case.....	25.00

#### Assorted Colors (12 colors)

Single gross, first grade.....	\$1.50
Single gross, second grade.....	1.00



## Improved Steatite Crayon



Manufactured from pure talc. A crayon pleasant to use and absolutely free from dirt, gritty matter and grease.

One gross will outwear many gross of common chalk. Sticks of the Improved Steatite may be had either triangular or oval. Unless specified the oval will be sent.

### Prices

Single gross.....	\$0.50
Per case of twenty gross.....	9.00

## Natural Talc Crayons



**Natural Talc is the Only Absolutely Dustless Crayon in the World**

### Because:

Natural talc weighs one hundred and seventy-five pounds to the cubic foot, while chalk weighs only thirty, thus showing that chalk dust will float in the atmosphere and be inhaled into the lungs at every breath of those using it, while on the contrary the talc flour falls immediately to the floor. It will not grease the board. It is the only crayon that will not break by being dropped on the floor. Put up in gross and half-gross boxes.

### Prices

Per gross box.....	\$2.50
Per half-gross box.....	1.50

## CRAYOLA

This is the only crayon that can be used successfully in place of Oil Colors, Pastels and Water Colors. For instructive color work in schools, teachers will find "Crayola" far superior to water colors or chalk crayon in point of convenience, cleanliness and economy.

The colors are absolutely permanent and as brilliant as those in the finest oil tube colors. Any effect can be produced, from the delicacy of water colors and pastels to the heavy, pasty oil colors.

No. 8. Eight colors (Spectrum colors, with Brown and Black) in tuck card-board box. Crayon paper-wrapped; size  $3\frac{3}{8} \times 5/16$  in.

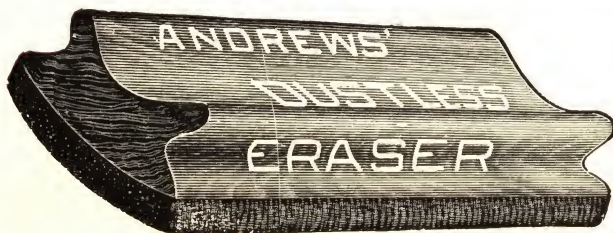
### Prices

Per gross boxes.....	\$8.50
Per dozen boxes .....	.80



## The Andrews Dustless Eraser

### For Blackboard Use



The Andrews Dustless Eraser lasts longer, cleans the board better and gives better satisfaction than any other eraser in the world.

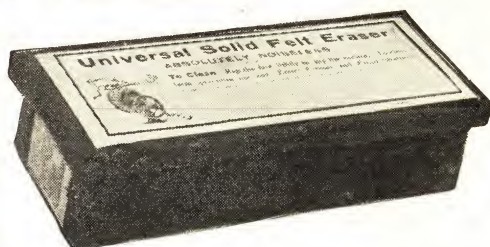
	Per doz.	Per gross.
Wool-felt .....	\$1.00	\$10.00
Cotton-felt .....	.90	9.00

When not specified in the order we always ship the wool.



## The "Universal" All Felt Eraser

The "Universal" All-Felt Eraser is made entirely of the best quality of Wool Felt. The erasing felts are cemented to the backs by a special process which insures absolute adhesion and the backs are stiffened by a treatment which overcomes all tendency to buckle or warp out of shape. Being made entirely of felt, they are absolutely noiseless when dropped on the floor, and there is no danger of damage to the blackboards while in use. Made in two sizes, 5 and 6 inches long.



### Prices

Small size, per dozen.....	\$2.75
Large size, per dozen.....	4.00

## The "Victor" Noiseless



This eraser is so constructed that there are no wooden corners exposed to wear or otherwise injure the blackboard.

The wearing depth of the felt is five times as great as that of any other eraser. The only perfect eraser manufactured.

Price, per doz.....\$2.50

## Dann's Noiseless Eraser

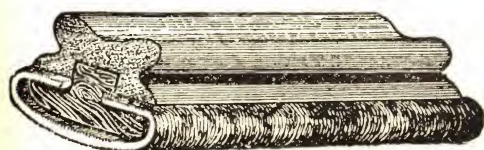
The Dann's Noiseless Eraser is becoming more popular every year. There is no wood, metal or glue used in the construction of this eraser, thus making it entirely noiseless. It is not subject to climatic conditions. The erasing strips, running lengthwise, are stitched to the back, as shown in the illustration, and the outside strips are so stitched as to bind firmly against the inner ones. In this way all tendency toward spreading is overcome, and the erasers last until all of the erasing felt is worn out. Made in two sizes, 5 and 6 inches long.



### Prices

Small size, per dozen.....	\$2.75
Large size, per dozen.....	4.00

## Carpet Erasers



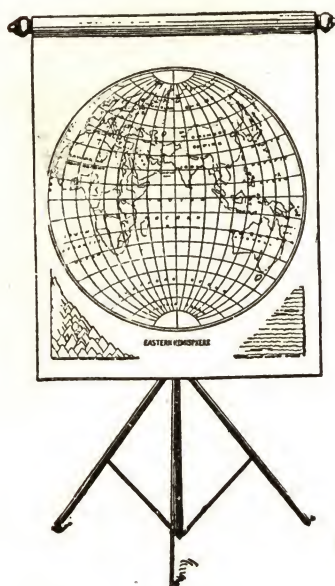
These are made of high pile carpet, which is the best erasing surface known and the most durable.

By removing the screw on top of the block the erasing surface can be easily renewed at a slight expense, making it practically everlasting.

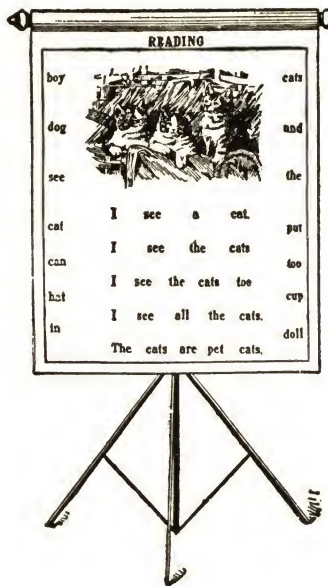
Price, per doz.....\$1.50



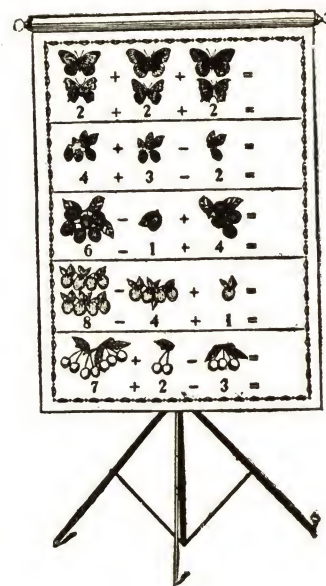
## Charts



American  
Complete Chart



American  
Primary Chart



American  
Primary Arithmetic Chart.

## The American Complete Chart

Embracing Practical Helps for Teaching the Following:

### SUBJECTS

**Reading**—Carefully graded Word and Object Method, a complete system of Phonics.  
**Arithmetic**—Primary Arithmetic, Tables, Practical Measurements, Business Methods.  
**Writing**—The Vertical System. **Geography**—A complete set of Maps.  
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## The American Primary Chart

All Common School Subjects Illustrated

### SPECIAL FEATURES

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**Writing.** Primary Arithmetic. Multiplication Tables. Tables of Weights and Measures. Geographical definitions. Beautiful chart of colors. Primary Drawing, carefully graded. Primary Music.  
 The most complete Primary Reading Chart. Beautifully Lithographed in Colors. 38 pages 30x40 inches. Every sheet bound in cloth.  
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The teacher in the primary grades is often at a loss for some good system of objects to show the first principles of Arithmetic during the first year that the child is in school. This series of charts solves the problem, as by a system of objects, such as butterflies, apples, pears, peaches, cherries, etc., the subject is placed before the children in such a pleasing way that it interests them, and at the same time enables the teacher to hold their attention.

The charts are lithographed in natural colors, and show the principles of Addition, Subtraction, Multiplication, Division and the Tables of Weights and Measures in a pleasing, easy and attractive manner.

40 pages, size 24x36 inches.

Price, complete with Revolving Adjustable Stand.....\$9.50





## The Striker Primary Reading Chart

Combining  
Semi-Slant Script with Print,  
and

The Word and Sentence Method with Phonetics.

In harmony with the present and established methods of teaching reading.

The only up-to-date reading chart on the market.

Contains 36 charts, each 30x38 inches.

The strongest paper and material are used throughout.

The edges are bound in linen.

With Revolving Adjustable Stand, price.....\$9.50

## New American Reading Charts

Thirty Numbers. 26x33 inches

Strong paper, bold type, red borders; can be used with the Word, A B C, or Phonic Method.

With Revolving Adjustable Stand, price.....\$9.50

## Butler's New Reading Charts

Thirty-six Number . 26x40 inches.

Beautifully and appropriately illustrated and clearly printed on fine paper. By the plan of grading, each chart increases the pupil's vocabulary by a limited number of new words, which are reproduced in script and diacritically marked. Every fifth chart is a review lesson in which the words previously learned are arranged in new combinations.

The series comprises:

30 Reading Charts.

1 Chart of Colors.

1 Chart of Forms.

1 Chart of Script Alphabet.

1 Chart of Roman Alphabet.

2 Charts of Phonic Drill.

—  
36

1 Chart of Clock Face.

The clock-face chart is provided with movable hands. Special attention is called to the arrangement of the color chart.

With each chart set we furnish the Butler Chart Primer, which is a miniature of the large charts, page for page, with suggestions for teachers. It may also be used as a primer. When sold separately, the Chart Primer is 15 cents per copy.

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## Appleton's Elementary Reading Charts

Forty-seven Numbers, including a Beautiful Chart of Colors

Each Chart 27x34 inches

Pictures and picture phrases are employed to add interest and sprightliness to the reading lesson.

The beautiful and significant illustrations are an especially noticeable and attractive feature of these charts.

Every chart in the series has in view a definite object, which is thoroughly and systematically developed.

Planned with especial reference to the cultivation of Language and the Power of Expression.

They follow the natural method of teaching, appealing to those faculties of the child that are most easily awakened and inciting correct mental processes at the outset.

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## Eclectic Elementary Charts of Reading and Writing

Thirty-six Numbers      Size 27x34 inches

A Good Series of Chart Lessons for the Youngest Pupils

### CONTENTS

1. Twenty-four Reading Lessons on twenty-four Charts. Gradual progress, slow but sure, with every chart. They are adapted to the Object, Letter, Word or Phonic Method, or a combination of these methods.

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## McGuffey's Reading Charts

REVISED EDITION

Twenty-eight Numbers, Size 26x32 inches. Designed Especially for the Primary Grades

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1. Twenty-four primary lessons, on twenty-four charts. These lessons begin with the simplest possible words, and are adapted to the object, letter, word, or phonic method, or combination of any of these methods. Words in legible script are on every chart, enabling the pupils to reproduce the words of the lesson in writing.

2. A full sheet, large Roman Alphabet, capitals and small letters, and numeral figures.

3. A practical and teachable color chart, beautifully and clearly exhibiting the Primary and Secondary Colors, and the composition of the latter.

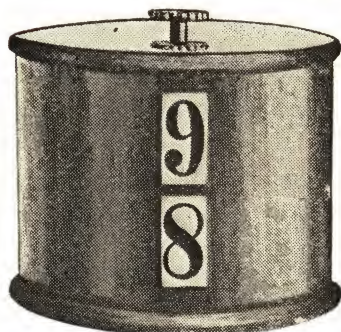
4. A full sheet large script alphabet, capitals and small letters.

5. A full sheet large multiplication table.

With Revolving Adjustable Stand, complete .....price \$7.50



## The Potter Number Reader



The use of this Number Reader will teach pupils to read a column of figures in addition as rapidly and accurately as they can read a printed sentence, and to perform other operations with numbers with corresponding rapidity and accuracy.

It is a mechanical device by means of which each of the ninety different arrangements, or forms, possible to be made with two figures placed one above the other, are made to appear to the teacher and to the pupils at the same time from opposite sides, before they begin to repeat. These are arranged in such a manner that it is impossible to memorize them by any order of succession.

The figures are very distinct and are sufficiently large to be read easily across any ordinary schoolroom.

The number forms can be made to appear before the pupils as rapidly as it is possible to recognize them and by requiring the immediate announcement of results, practically eliminates the habit of counting to obtain them.

The Reader furnishes the most speedy and convenient means yet devised for the mastery of number combinations. It is especially valuable as an aid in memorizing the tables in addition, subtraction, and multiplication. Figures are furnished with each machine, adapting it to purely primary work, giving combinations from one to ten only.

All operations are presented to the students in the position and form that they will be met with in actual business operations, thus leading to no break in the transition from the drill work of the school to the practical work of the business world.

The attractiveness and novelty of the device fix the attention of the children and cultivate the power of concentration, thus greatly facilitating the complete mastery of the number combinations.

Simple in construction, it cannot get out of repair and will last a lifetime.

A "Manual for Teachers" accompanies each machine which gives ample suggestions for its use.

Price ..... \$10.00

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The charts of Europe cover all work in ancient, classical, mediaeval and modern European history. Those of the United States portray our country in successive eras, indicating the various changes it has passed through from its discovery to the present time.

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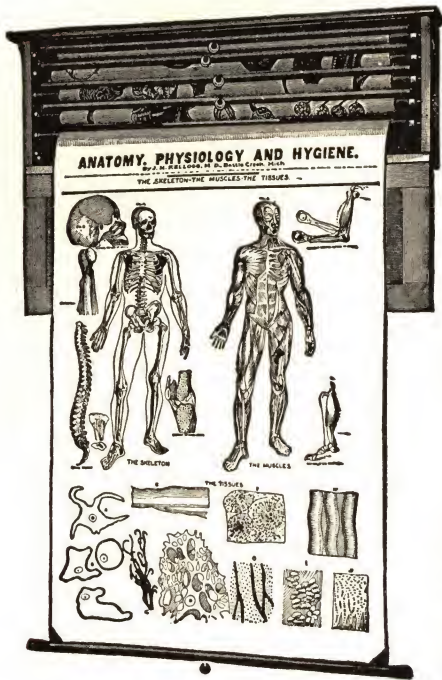
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In high colors, hand-painted, that can be seen across any recitation or lecture room



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Set comprises five charts. Each 32x48 inches.

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No. 4. Circulation.

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Done in Johnston's best style. Superior to any other School Charts on Physiology. Equal in all respects to the expensive manikins sold at two or three times the cost of these charts. They are intended to exhibit the leading facts which are to be observed in the study of the plan of construction of the human body and have been selected with a view of illustrating the principles involved in its construction.

Eight Charts to the Set—Each 22x32 inches in size. Complete Teachers' Manual accompanies each set.

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Plate 3. The Muscular System and the Structure of Muscle.

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Plate 5. Veins, Organs of Respiration, Circulatory System.

Plate 6. Lymphatics and Organs of Digestion.

Plate 7. The Brain, Nervous System and the Structure of the Skin.

Plate 8. Organs of Sense and Voice.

Complete set, eight Charts, mounted on charthead, with iron tripod adjustable stand, including Teacher's Manual..... \$15.00



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Models Are Carefully and Securely Packed for Shipment Without Extra Charge. They Are, of Course, Most Safely Shipped by Express, and Unless Otherwise Ordered, Will Be So Forwarded

### ALL MODELS ARE MOUNTED IN NATURAL COLORS

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#### Models, Natural Size

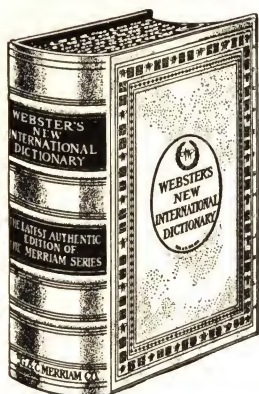
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A. Anterior view of the lungs and heart. The pericardium opens and the anterior portion of the left lung may be removed, showing the bronchial ramification, alveoli, etc. ....	<b>5.10</b>
B. Posterior view of the lungs and heart, with a representation of the bronchial ramifications, air cells, blood vessels and lobuli .....	<b>5.10</b>
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F. Knee-joint .....	<b>2.70</b>
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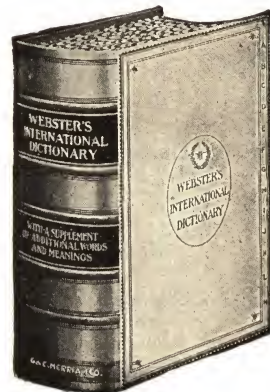
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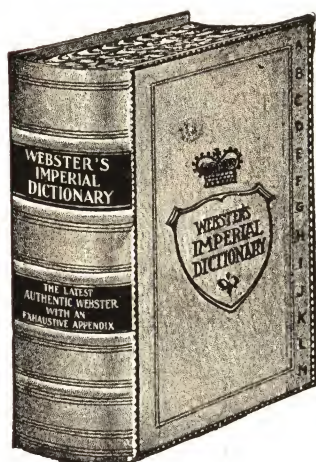
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This dictionary contains every word Noah Webster ever defined and an appendix of 10,000 words. Special up-to-date features, pronouncing vocabularies of Scriptural names, modern geographical names, Greek and Latin proper names.

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Cloth, 8vo. 736 pages. Abridged directly from the International Dictionary, and giving the orthography, pronunciation, definitions and synonyms of the large vocabulary of words in common use, with an appendix containing various tables, with over 800 illustrations..... \$2.00  
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Cloth, 8vo. 530 pages. Containing about 37,000 words and definitions, and an Appendix giving a pronouncing vocabulary of Biblical, Classical, Mythological, Historical and Geographical Proper Names, with over 800 illustrations.....\$1.25

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Cloth, 12mo. 416 pages. Containing over 25,000 words and meanings, with over 500 illustrations..... \$1.00

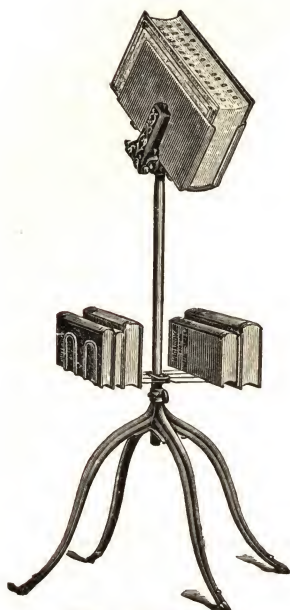
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Cloth, 12mo. 336 pages. Containing over 20,000 words and meanings, with over 400 illustrations.....\$0.75

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Vest Pocket Webster's Dictionary. Contains 27,500 words and meanings, 5,000 synonyms, also Rules of Parliamentary Procedure, Rules for computing interest, etc.  
Full Leather, Gilt Edges..... \$0.50  
Flexible Cloth, Colored Edges..... .25

## Dictionary Holders



The "Harvard"  
Nos. 5, 9 and 10.



The "Noyes" No. 19.



Dann's All Steel  
Dictionary Holder.

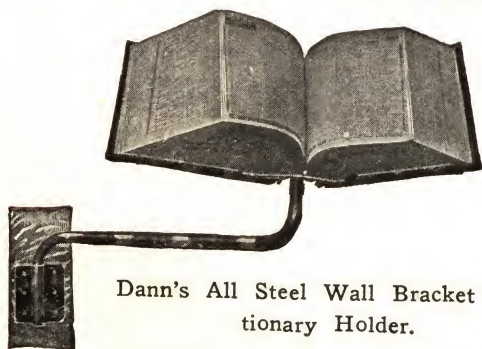
The pieces used in the make-up of the "Harvard" are made of malleable iron. The legs are made of steel, having a new and simple construction for putting together. The leaves are polished oak and the standard is nickel.

The "Noyes" No. 19 has bronzed base, nickel-plated standard, and the case is of polished walnut, oak or cherry. It can be adjusted to any book, but is specially adapted for dictionaries, and is adjustable to any height or angle.

The Dann's All Steel Holder is made entirely of pressed steel, there being no wood parts or springs to break or get out of order. It is simple in construction, easy to put together and can be adjusted to any height or angle.

### STYLES AND PRICES

No. 5.	Harvard, complete, with revolving shelf, bronze finish .....	\$3.00
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Dann's All Steel Wall Bracket Dic-  
tionary Holder.

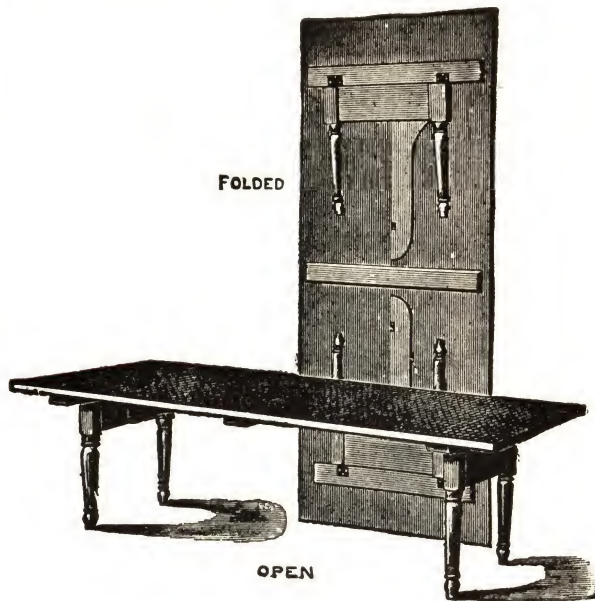
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Oxidized .....	4.00



Bartlett Dictionary  
Holder.

Price .....\$2.50





## Kindergarten Tables

### WITH FOLDING LEGS

These tables are made of hardwood, nicely finished, and have their tops accurately grooved in inch squares. They are made 20 inches high. Table No. 1 is made with legs to fold. Table No. 2 is made with turned legs to fold, is strongly framed and securely braced.

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## Straight Kindergarten Chairs

Red or Natural Finish.

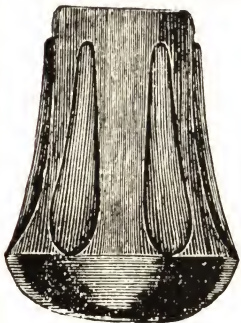
No. 164. 10 inches high. Per dozen ..... \$ 7.00

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No. 180½.



## Rubber Tips for Chairs

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No. 231. Diameter, ¾ inch. Per gross.....\$2.25

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## Schoolroom Bookcases



These bookcases are put up in a substantial and handsome manner, and are a protection to the books as well as an ornament to the schoolroom. Made of solid oak, antique finish; height, 49 inches; width, 36 inches; depth, 12 inches.

**No. 1.**—Same as No. 2, except that glass is substituted for the oak panels in the door.....\$11.00

**No. 2.**—As illustrated, with oak panel doors .....\$10.00

Shipping weights, No. 1, 140 pounds; No. 2, 125 pounds.

Height, 63 inches; width, 36 inches; depth, 12 inches; adjustable shelves. case.

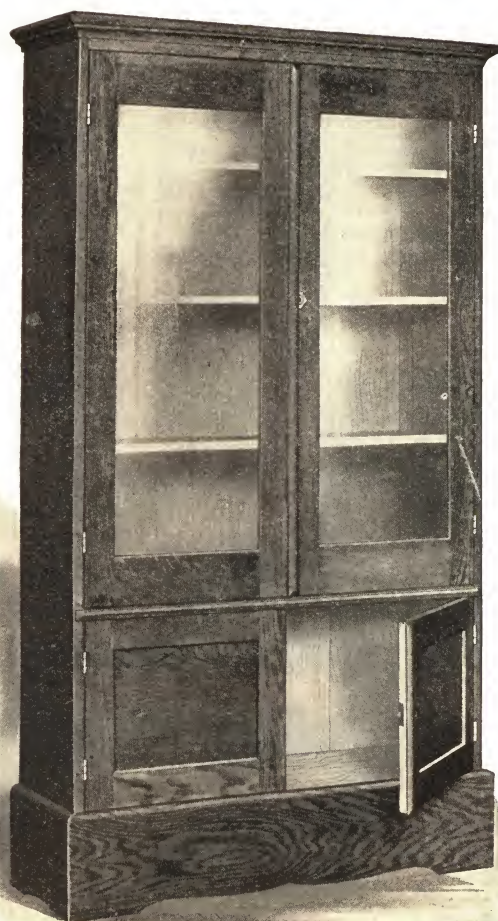
Height, 63 inches; width, 36 inches; depth, 12 inches; adjustable shelves.

One of the valuable features of this case is a compartment 14 inches high entirely separate from the bookcase proper. This has two advantages—it obviates the necessity of stooping to get books from the lower shelf and also affords a convenient receptacle for odds and ends.

**No. 3.** As illustrated, with glass doors .....\$13.00

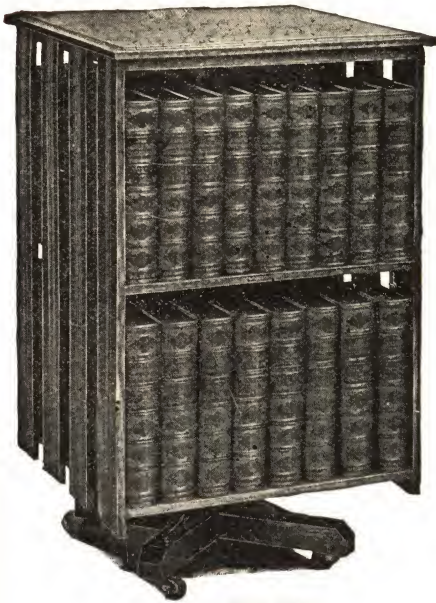
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Shipping weights, No. 3, 170 pounds; No. 4, 160 pounds.





## Revolving Bookcases



No. 612.



No. 702.

### Number 612.

Top, 20 inches square, 35 inches high. Both book spaces 12 inches high. Shelves, 18½ inches long, 8¼ inches deep.

No division to shelves; books can extend through from one side to the other. Holds full set of Encyclopedia Britannica, and is also suitable for large reference books of all kinds.

Made of Oak. Finished Golden, Weathered, Fumed or Early English.

Weight, packed, 60 pounds.

Price .....\$8.00

### Number 702.

Top, 17x19¼ inches, 30 inches high. Both book spaces 11 inches high; shelves 15 inches long, 8¼ inches deep. No divisions to shelves; books can extend through from one side to the other. Adjustable leaf on side. Holds full set of Britannica.

Weight, packed, 60 pounds.

Oak, finished Golden, Weathered, Fumed or Early English .....\$ 8.00

Genuine Mahogany ..... 10.70

### Number 301.

Top, 16½x23 inches, 52 inches high. Bottom shelf 12 inches high; next two above are each 10 inches; top shelf, 7½ inches high.

Shelves, 19¾ inches long; 7 inches deep.

No divisions to shelves; books can extend through from one side to the other.

The adjustable leaf on side is a useful feature; it is intended for dictionaries or other large or heavy volumes. It can also be used as a reading desk.

Oak, finished Golden, Weathered, Fumed or Early English.

Weight, packed, 95 pounds.

Price .....\$10.70

### Number 703.

Top, 17½x19 inches, 35 inches high.

Case has six shelves, 16 inches long by 6 inches deep, and four shelves, 6 inches long by 7 inches deep.

No divisions to shelves, books can extend through from one side to the other.

All shelves are 8 inches high. Adjustable leaf on side.

Weight, packed, 65 pounds.

Golden, Weathered, Fumed or Early English Oak.....\$ 9.35

Genuine Mahogany ..... 13.35



## American Sectional Bookcase

### Standard Sections

Shelves  
do not  
protrude.

No dust  
collecting  
ledges.

Handsome  
front  
and end  
appearance.

Outside length  
34¼ inches.

Extreme Height  
61½ inches.



	Oak or Birch	Mahog Paneled Ends
Top Sect.		
List Price,	\$3.00	\$4.00

9¼ inch Book Sect.		
List Price,	4.15	5.50

11¼ inch Book Sect.		
List Price,	4.50	6.00

11¼ inch Book Sect.		
List Price,	4.50	6.00

13¼ inch Book Sect.		
List Price,	5.25	7.00

Base Sect.		
List Price,	2.65	3.50
Total,	\$24.05	\$32.00

Plain or Quartered Oak, Birch-Mahogany Finish, or Genuine Mahogany—Rubbed and Polished Finish.

	Length Inches	Depth Inches	Height Inches	Quar. Oak Golden or Weathered Finish or Birch Imit. Mahogany.	Mahogany with Paneled Ends	Plain Oak
Book Section, Standard, with door....	32½	10½	9¼	\$4.15	\$5.50	\$3.60
Book Section, Standard, with door....	32½	10½	11¼	4.50	6.00	4.00
Book Section, Standard, with door....	32½	10½	13¼	5.25	7.00	....
Top Section, Standard, (regular).....	....	....	....	3.00	4.00	2.25
Top Section, Standard, (fancy).....	....	....	....	5.00	6.50	....
Base Section, Standard.....	....	....	....	2.65	3.50	2.25
Book Section, Standard, without doors, all sizes.....	....	....	....	3.00	4.00	2.45
Claw Foot Base, Standard.....	....	....	....	4.50	....	....
<b>EXTRA DEEP SECTIONS</b>						
Book Section.....	32½	14	13¼	6.00	\$8.50	....
Reducing Book Section.....	32½	14	13¼	6.50	8.75	....
Deep Base Section.....	....	....	....	3.00	4.00	....

Special Catalogue Furnished upon Request Showing Mission Styles, Leaded Glass Fronts, Claw Foot Bases, Filing Cases, Etc., Etc.



## American Sectional Book Case

There are three standard heights to our Sectional Bookcases, namely,  $9\frac{1}{4}$ ,  $11\frac{1}{4}$  and  $13\frac{1}{4}$  inches. These three standard heights have been adopted, as experience has proved that no more are necessary. They will hold all the different sizes of books found in any ordinary library.

The regular depth is  $10\frac{1}{2}$  inches, inside measurement, but, to supply a large library, and also to accommodate large volumes, bound magazines, etc., a special large section 14 inches deep can be provided. When this section is used a reducing section is required to return to the standard depth of  $10\frac{1}{2}$  inches, and a deep base section should also be specified. If, however, only one deep section is required, the reducing section with the deep base is sufficient.

We prepay the freight to all points in middle and Eastern States, and make liberal allowance to all points more distant.



The illustration shows the knock-down (flat) construction.

It is put together without nails, screws or dowel pins; the irons that are fastened to the shelves have upper and lower tongues that fit in the grooves of the bases, center sections and top sections, thereby binding all rigidly together. All doors, ends, shelves and backs are interchangeable.

There are no unsightly iron bands on the sides or protruding shelves between the doors. All sections fit together so nicely that the case has the appearance of a solid piece of furniture, and is just as strong.

Especial attention is directed to our Doors, which are Roller-Bearing. This feature absolutely prevents binding in any climate, and on the other hand, allows the door to slide backward or forward always with perfect ease.

And our Doors are removable.

We cannot speak too forcibly of this exclusive feature. When the glass is to be cleaned or a broken one replaced, the door is simply unhooked. In all other makes the books must be removed and the case taken entirely apart before the door can be removed.





## Manual Training Cabinet Benches



### PERFECTION MODEL

Regularly fitted with No. 3 Vise, Steel Dog and Bench Stop.

For Top Construction, See Page 56.

Each pupil should be allowed, as far as possible, to have his own set of tools and be held responsible for their care and safe keeping. To do this he should be provided with a private locker, and the above style of bench contains the best combination possible to devise.

Price, \$25.65

Weight 180 Pounds

With extra No. 3 Vise on end of top, price \$31.35

Weight 210 Pounds

**DIMENSIONS**—52 inches long, 22 inches wide, top  $2\frac{1}{4}$  inches thick. Tool recess 7 inches wide. General tool drawer 32 inches long,  $5\frac{1}{2}$  inches high, 17 inches deep. Private lockers  $15\frac{1}{2}$  inches long, 5 inches high, 17 inches deep. Legs  $2\frac{1}{2} \times 3$  inches. Rails  $3\frac{1}{2}$  inches wide.

### SIOUX CITY MODEL

Like Perfection as shown above, but with six private lockers and one general tool drawer.

Fitted with No. 3 Vise, Steel Dog and Bench Stop.

Price, \$28.50

Weight 200 Pounds

Fitted with extra No. 3 Vise on end of top, price \$34.20

Weight 230 Pounds

### TEN-DRAWER DOUBLE BENCH

Fitted with two No. 3 Vises, two Steel Dogs and two Bench Stops.

Includes general tool drawers and four private lockers on each side, presenting a side appearance like our Perfection Model Bench, with locker of same.

Price, \$46.25

Weight 350 Pounds

**DIMENSIONS**—Top 36 inches wide, 52 inches long.

### FOURTEEN-DRAWER DOUBLE BENCH

Fitted with two No. 3 Vises, two Steel Dogs, and two Bench Stops.

Price, \$53.75

Weight 400 Pounds

Includes one general tool drawer and six individual lockers, on each side, dimensions being the same as the Perfection Bench.



## Manual Training Benches



### DENVER MODEL

Fitted with No. 3 Vise, Steel Dog and Bench Stop.

Price with drawers, \$14.95

Price without drawers, 13.20

Weight 130 Pounds

Weight 115 Pounds

Add \$5.70 to Above Prices to Fit with Additional No. 3 Vise on End of Top.

**DIMENSIONS**—32 inches high, unless otherwise ordered. Top 42 inches long, 22 inches wide, 2¼ inches thick. Tool recess 7 inches wide. Tool-rack 30 inches long. Drawers 6 inches high, 22 inches long, 19 inches wide. Fitted with bronze pulls.

### ALASKA MODEL

#### Manual Training Bench

Fitted with No. 3 Vise, Steel Dog and Bench Stop.

Price without drawers, \$14.95

Price with drawers, 17.00

Weight 130 pounds

Weight 150 pounds

Add \$5.70 to Above Prices to Fit with Additional No. 3 Vise on End of Top.

**DIMENSIONS**—32 inches high. Top 52 inches long, 22 inches wide, 2¼ inches thick. Tool recess 7 inches wide. Drawer 6 inches high, 32 inches long, 19 inches wide. Fitted with bronze pulls.

### FT. WAYNE MODEL

#### Double Manual Training Bench

Fitted with Two No. 3 Vises, Two Steel Dogs and Two Bench Stops.

Price with drawers, \$28.50

Price without drawers, 24.95

Weight 250 Pounds

Weight 200 Pounds

**DIMENSIONS**—32 inches high, unless otherwise specified. Top 52 inches long, 36 inches wide, 2¼ inches thick. Tool recess 8 inches wide. Drawers 6 inches high, 32 inches long, 16 inches wide.

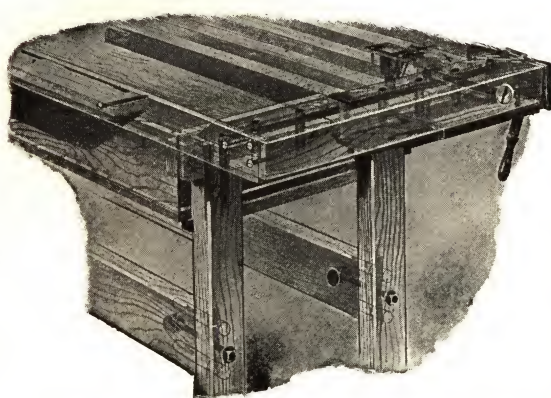
**STAND CONSTRUCTION**—The stand for this bench is made of extra heavy material thoroughly rigid and exceptionally attractive in appearance.

**FRAME AND TOP CONSTRUCTION**—See page 56.

The wide bolster and tail vise feature in connection with this bench is made exceptionally efficient by carrying the series of holes across the entire width of the top. These fitted with our steel dogs offer a very efficient clamping combination for work on top of this bench, which is designed to accommodate two pupils. Note the manner in which these bolsters are grooved into the main portion of the top and anchored to it by means of two of our special countersunk bolts.



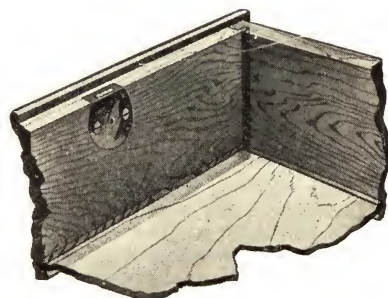
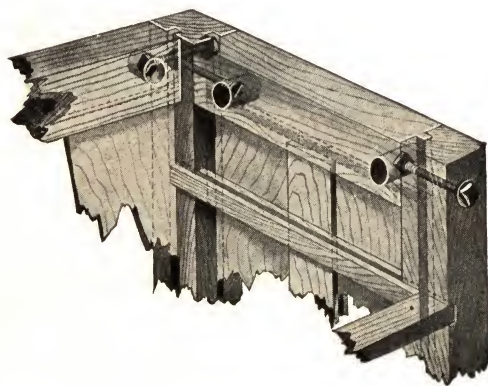
## Our Manual Training Bench—*Construction and Fittings*



The accompanying cut illustrates, in detail, the mechanical construction of all of the Manual Training Benches that we handle. It emphasizes the fact that the business ends of these improved work benches represent much more in labor and material than the old type benches to which you are accustomed. This type is the development of long, close and personal experience with the requirements and usage to which benches of this character are subject. A sample bench will be shipped immediately on request of school authorities investigating this subject, and we will agree to pay the freight both ways, if, after investigation, it does not prove to be suited to the purpose, or is not the best available for the price.

We show only two styles in this catalogue on account of lack of space, but if you contemplate installing a manual training department, or are in the market for additional equipment, do not place your order without getting prices on our complete line.

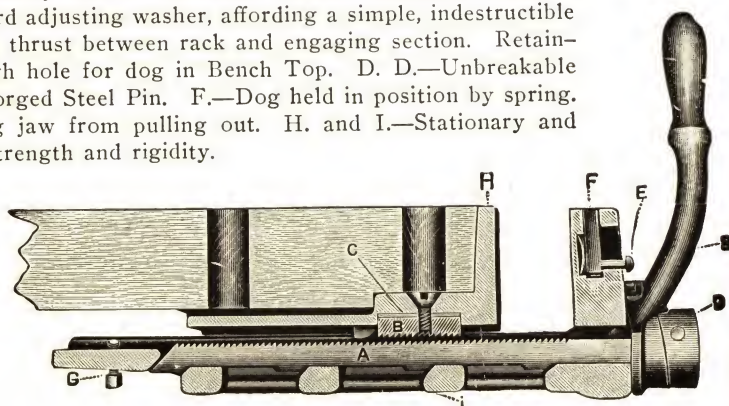
The illustrations below will give you a good idea of the substantial manner of constructing the frames and drawers in all our benches. Locks are Yale and Towne's and can be master-keyed at a slight additional expense.



### SECTION OF No. 3 VISE

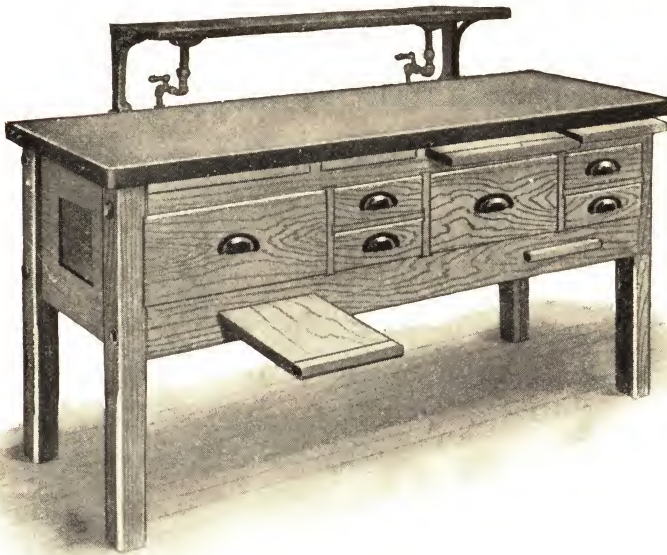
A.—Forged Steel Rack accurately milled. B.—Steel section engaging fourteen milled teeth in rack. C.—Cardboard adjusting washer, affording a simple, indestructible means of adjustment for wear and thrust between rack and engaging section. Retaining Screw easily accessible through hole for dog in Bench Top. D.—Unbreakable malleable cam and handle. E.—Forged Steel Pin. F.—Dog held in position by spring. G.—Stop screw to prevent sliding jaw from pulling out. H. and I.—Stationary and outer jaw showing their unusual strength and rigidity.

View showing strong,  
simple construction  
of No. 3 Vise





## Domestic Science and Drawing Tables



### Domestic Science Table No. 2

With cement fiber enamel top.

Price with either single or double stoves .....\$37.00

Weight, 285 Pounds.

**DIMENSIONS**—Top 2x5 feet. Thirty inches high and includes either two standard single burner stoves or one double burner stove as illustrated. Meat boards 9x12 in. Bread boards 18x20 in. Frames, hard maple; cabinet and fittings, birch; top, cement fiber enamel. Meat and bread board finished white; frame and cabinet in oil and shellac. Top composition can be furnished in either buff, gray or red. Two large drawers 7 inches high, 16 inches long. Smaller drawers 3 inches high, 9 inches long and 20 inches deep.



### Cement Fiber Enamel Table Tops

Are acid, heat and moisture proof. They are sufficiently elastic to eliminate chipping of china or undue noise by contact, as in the case of marble, glass or slate tops. They are guaranteed against any kind of cracks, shrinkage or other defects under any kind of usage. The material has been used with perfect success in sanitary floors subject to the hardest conditions, thus proving its worth for this purpose.

Reference to cut shows  $\frac{5}{8}$  inch of composition reinforced by expanded metal and matched wood backing. The edges are bound with substantial enameled metal strip. Samples of buff or gray composition sent on request, or the table complete to prospective purchasers of equipments on our usual conditions.

### Drawing Table No. 1

Price .....\$31.35

Weight 160 Pounds.

**DIMENSIONS** — Top 28x48 inches. Height 40 inches. Private lockers 9 inches wide, 4 inches high, 22 inches deep. General drawer 9 inches wide, 4 inches high, 22 inches deep. Drawing board cabinet 24½ inches high, 22 inches deep, with slides to accommodate six drawing boards.

Finished in golden oil filler and shellac, two coats. Material of best grade, kiln-dried birch throughout. The above photographic reproduction shows the workmanlike and artistic manner of construction in this table. The design involves absolute completeness so far as private lockers and cabinet accommodations are concerned. This table is fitted throughout with our standard drawer and lock construction.





## American Steel Lockers

SAFE—SANITARY—ECONOMICAL

Protect Your Pupils' Clothing



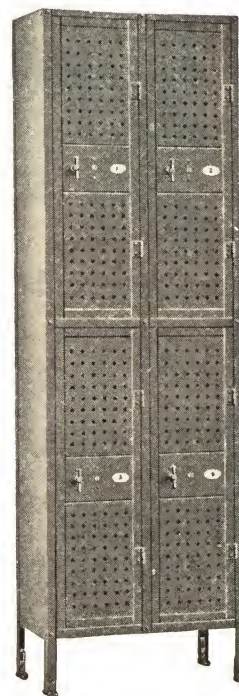
Metal Lockers are a necessary part of the equipment of all modern school houses, as they furnish the most convenient and logical method of caring for the outer garments of pupils during school hours. Sanitary conditions cannot be maintained if garments and sundry articles are scattered throughout the school in a promiscuous manner without regard to order and cleanliness.

Lockers made of steel are preferable to the old style wooden cupboards, as they reduce fire hazards; improve sanitary conditions; establish order; encourage habits of cleanliness and provide for a maximum of security against petty theft.

The material and construction of our Lockers are such that they insure the greatest strength, rigidity and durability, withstanding the most severe usage and affording the greatest safety. For the frames of the bodies we use 1 in. x 1 in. x  $\frac{1}{8}$  in. special steel angle with a smooth surface. The panels are made of high grade steel with pressed edges, to insure tight and smooth joints where steel is joined to the frame. The frames of all doors are made with 1 in. x 1 in. x  $\frac{1}{8}$  in. special steel angle with a smooth surface. The door panels are made of extra heavy special steel or expanded metal, with reinforced lock plates of heavy steel in the center.

Ventilation is provided for by means of louvre vents as shown in the upper illustration, or round perforations as shown in the lower illustration, either style being furnished as desired.

The illustration at the top of this page shows two single tier lockers or units in one group and the lower illustration shows four double tier lockers or units in one group. Lockers are generally made so that they can be set up in solid groups, each group containing a specified number of lockers; quantity in each group to be determined by the length of space available. It is also important to specify whether they are to be set up in single rows or back to back. If each locker is built as a separate unit, the cost is increased.



### STANDARD SIZES OF LOCKERS.

Each compartment is always figured as one locker.

#### SINGLE TIER

Width, inches	Depth, inches	Height, inches
12	12	60 or 72
12	15	60 or 72
12	18	60 or 72
15	15	60 or 72
15	18	60 or 72
18	18	60 or 72
18	24	60 or 72

#### DOUBLE TIER

Width, inches	Depth, inches	Height, inches
12	12	36, 42 or 48
12	15	36, 42 or 48
12	18	36, 42 or 48
15	15	36, 42 or 48
15	18	36, 42 or 48
18	18	36, 42 or 48

No Hat Shelf in Double Tier Lockers.

NOTE—The height of lockers is listed exclusive of legs. The standard height of legs is 6 inches; this should be added to get the over-all height. Each leg is fitted with a malleable iron attachment at the bottom, which is adjusted with a machine bolt so that the lockers can be easily leveled.

See next page for prices and other information



## American Steel Lockers

Lockers are shipped "knocked-down," thus insuring lowest rate of freight. Full directions, with blue prints showing diagrams, accompany each shipment and the lockers can be very easily installed. They can also be shipped "set-up," but we do not recommend this on account of the increased freight charges, and the great difficulty experienced in getting them into the buildings.

All lockers are equipped with three steel 2-prong hooks and one brass number plate, except the 18x24-inch sizes, which have two additional hooks and rod for hangers.

Finish: Baked enamel, black, olive green, or maroon.

### SINGLE TIER

Size	Type	Weight lbs.	Type	Weight lbs.
	G-4 E-3		C-2 A-1	
12x12x60	\$6.40	48	\$ 6.84	54
12x12x72	6.84	55	7.40	63
12x15x60	6.62	52	7.10	58
12x15x72	7.10	59	7.66	67
12x18x60	6.88	55	7.36	61
12x18x72	7.38	63	7.94	71
15x15x60	7.02	58	7.62	66
15x15x72	7.50	67	8.18	77
15x18x60	7.32	62	7.94	70
15x18x72	7.88	70	8.58	80
18x18x60	7.70	68	8.36	76
18x18x72	8.22	78	9.04	90
18x24x60	9.30	74	10.00	82
18x24x72	9.90	90	11.00	102

For lockers in quantities of less than 20, add 20c each to list.

For lockers in quantities of less than 10, add 30c each to list.

For single lockers, add \$1.00 each to list.

For lockers "set-up" at factory before shipping, add 50c each to list.

For lockers built back to back, deduct 40c each from list.

No lockers built back to back exceeding 15 inches in depth.

All single tier lockers are made with hat shelf, 9 inches from top.

### DOUBLE TIER

Size	Type	Weight lbs.	Type	Weight lbs.
	H-4 F-3		D-2 B-1	
12x12x36	\$4.50	30	\$4.80	33
12x12x42	4.80	35	5.16	38
12x12x48	5.30	40	5.70	43
12x15x36	4.66	32	4.98	34
12x15x42	5.00	37	5.36	39
12x15x48	5.50	42	5.90	44
12x18x36	4.82	34	5.14	36
12x18x42	5.26	40	5.52	42
12x18x48	5.80	44	6.20	46
15x15x36	4.88	36	5.24	41
15x15x42	5.48	42	5.90	47
15x15x48	5.98	46	6.46	51
15x18x36	5.06	39	5.44	44
15x18x42	5.72	44	6.14	49
15x18x48	6.22	48	6.68	53
18x18x36	5.30	42	5.72	48
18x18x42	5.98	47	6.48	53
18x18x48	6.48	52	6.98	58

For lockers in quantities of less than 20, add 20c each to list.

For lockers in quantities of less than 10, add 30c each to list.

For units of two lockers, add 50c each to list.

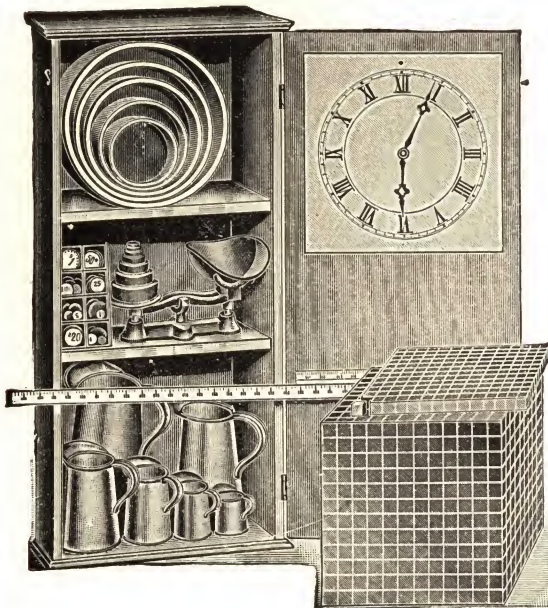
For lockers "set-up" at factory before shipping, add 50c each to list.

For lockers built back to back, deduct 20c each from list.

No lockers built back to back exceeding 15 inches in depth.

Above prices are for lockers equipped with Flat Key Locks, master-keyed. For keyless locks worked by combination, add 40c each to list prices. For padlock attachment, without lock, deduct 40c each from list prices.

## Apparatus for the Illustration of Denominate Numbers and the Measurements of Surfaces and Solids



This set of apparatus is packed in a fine cabinet case that will protect it, and is an ornament to the schoolroom.

The apparatus will render the teaching of denominate numbers natural, easy and effective. The cabinet contains the following denominate-number apparatus:

### AVOIRDUPOIS WEIGHT

Used for all the ordinary purposes of weighing. Consists of 1 set of scales, of good size and accurate; 1 set of weights, from  $\frac{1}{2}$  oz. to 2 lbs. The teacher will explain (by the use of an extra 1-oz. weight) how one each 8, 4, 2 and two 1-oz. weights equal the 1-lb. weight, etc.; how different articles, though not of the same size, may be of equal weight; adding, subtracting, etc., etc.

### UNITED STATES COINS

Represented by copies in cardboard of all the different denominations, one dollar and under, in common use, arranged in neat partitioned box.

### TIME

This is a novel piece of apparatus. A clock dial, with movable pointers. These may be moved either way, forward or back, and minutes, hours, days, etc., plainly illustrated. This will not only be of great service in teaching the table, but the very young pupil will quickly be able to tell the time of the day for himself.

### DRY MEASURE

Consists of five wooden measures, very strongly made; quart, 2-quart,  $\frac{1}{2}$  peck, peck,  $\frac{1}{2}$  bushel.

### LIQUID MEASURE

Consists of six pieces, tin, in the usual form, viz.: gill,  $\frac{1}{2}$  pint, pint, quart,  $\frac{1}{2}$  gallon, 1 gallon.

### LINEAR MEASURE

Includes one-yard, foot and inch measure. The teacher may show how the inch will be contained in the foot twelve times, the foot in the yard three times; and with the yard, longer distances measured.

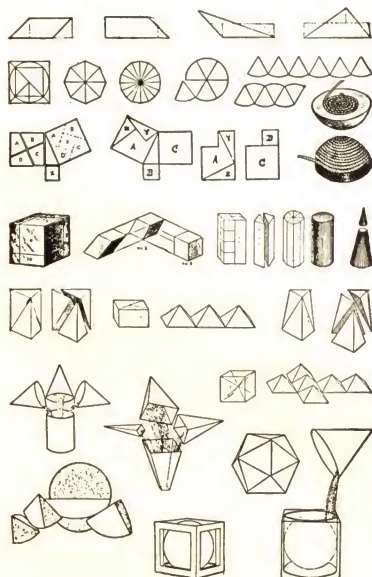
### SQUARE OR SURFACE MEASURE

Consists of a block on which are drawn 144 squares, of 1 inch each. The detached square may be added, thus forming the square foot of 144 square inches.

### CUBIC, OR SOLID MEASURE

Used in computing solids, as timber, wood, stone, etc. Represented by a solid, on which are drawn lines to represent 1,584 cubic inches. By adding the small block we complete the cube and have 1,728 cubic inches, or one cubic foot.

Complete Set, in common box.....\$12.00  
Complete Set, in cabinet case..... 15.00



## Ross Mensuration Blocks

### Dissected Surface Forms and Geometrical Solids

The Ross Mensuration Blocks are made and dissected with mathematical accuracy, are models of beauty and skill in wood workmanship, and are practically indestructible.

All Blocks are carefully labeled with the name of the form, explanation of the principle illustrated, and the rule for the arithmetical operation; practically every rule in Mensuration will be found on the Blocks—for instance, the explanatory matter on the Dissected Sphere, containing over 400 words of explanation and rules.

Every principle (with one exception) in Mensuration is taught objectively by the Ross Blocks. They are also used extensively in High Schools and Colleges for teaching Geometry.

A Manual accompanies each set, explaining each form in detail and presenting the whole subject of Mensuration with a comprehensiveness and exhaustiveness to be found, practically, in no arithmetic.

The Dissected Geometrical Forms are valuable aids in teaching Geometry.

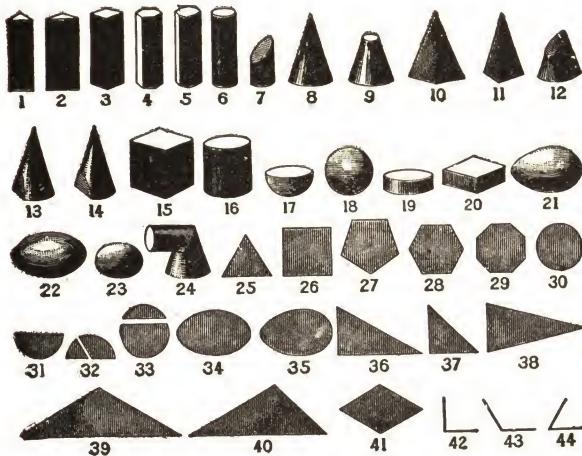
Fifty forms packed in strong box with lock and key.

Sold in complete sets only.

Price.....\$25.00



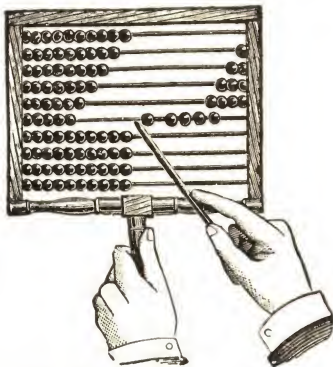
## Geometrical Surfaces and Solids No. 15.



This set of forms embraces the common surfaces and solids which are found in elementary geometry, together with a simple illustration of angles. As shown in the above cut, there are twenty-three solids, seventeen surfaces and three angles, the latter being represented by bent wires. The solids are accurately and neatly made from well-seasoned hard wood, and the surfaces from a very hard light-colored board, accurately cut with steel dies. This set is put up in a neat wooden box.

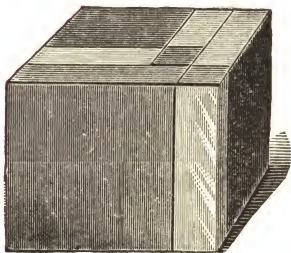
Price, per set.....\$4.00

## Hand Numeral Frame



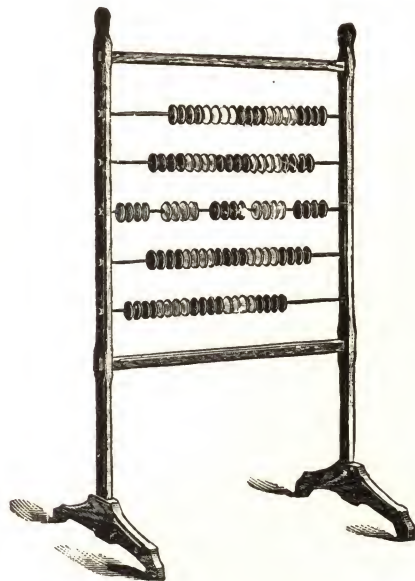
No. 21. 144 Balls .....\$0.85  
No. 22. 100 Balls ..... .75

## Cube Root Blocks



No. 25. Small Double Set, 15 pieces  
for illustrating three places in the  
root .....\$0.85

## High Stand Numeral Frame

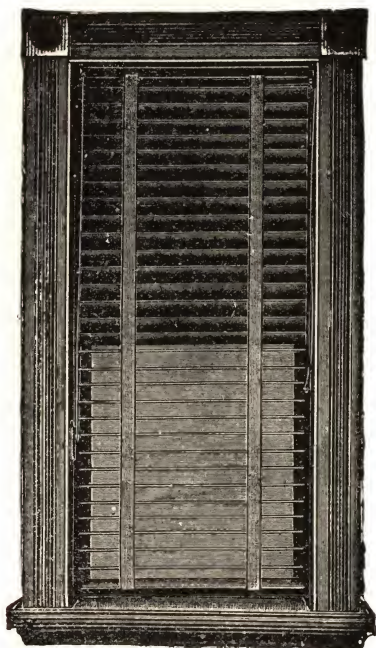


No. 22A. Size: 5 feet high, 32 inches wide,  
100 balls each 2 inches in diameter.

Price .....\$9.00



## Venetian Blinds



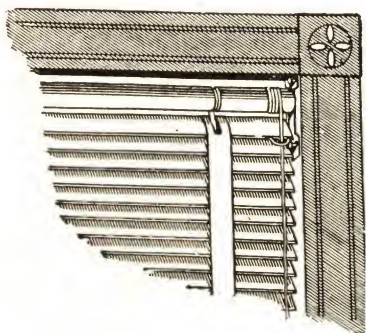
Venetian Blinds have proven a success. They are stronger and more convenient than shades. With them the light can be toned down or shut off, and the ventilation regulated. The slats are made of wood fastened together with durable linen tape. The hangings are strong and ingeniously contrived.

All blinds are sold by the square foot.

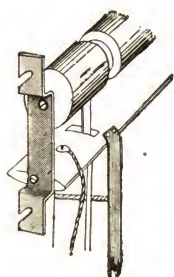
No blind figured less than 12 square feet.

Made from—	2¾-in. Slats.	2-in. Slats.
Spruce, Whitewood, Linden, Yellow and Norway Pine, finished natural or stained to imitate Cherry, Mahogany or Walnut, or painted in dark colors..	\$0.19	\$0.21
Painted in light colors or tints.....	.21	.23
Painted in Enamels .....	.24	.26
Enameled, rubbed between coats.....	.38	.40
White Pine, Cypress, Plain Oak, Ash, Elm, Chestnut and Ordinary Maple .....	.21	.23
Plain Birch and Butternut.....	.22	.24
Quartered Oak and Sycamore.....	.24	.26
Cherry, Black Walnut, California Redwood and White Ash .....	.30	.32
Red Mahogany, Curly Birch, Birdseye and White Maple .....	.38	.40

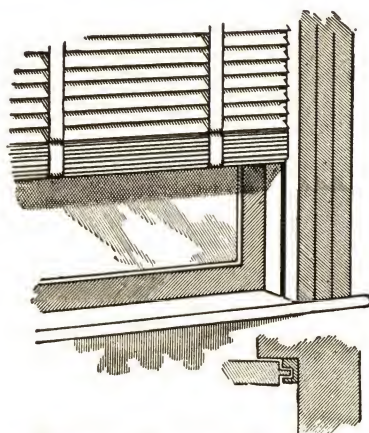
## Venetian Blinds with Roll Heads and Tenoned Slats



Showing Roll Head.



Showing Method of Hanging.



Showing Tenoned Slats.

Roll Head Blinds have narrow strips of metal down through the slats instead of cords, concealed behind the tape. When raising a blind these metal strips wind around the Roll Head and at the same time the raising cord at the right unwinds, thus keeping the slats perfectly horizontal. The advantage of metal over cord is apparent and also makes a great difference in ease of operation.

To hang Roll Head Blinds, it is only necessary to put the slotted irons attached to the blind on each side over two screws previously placed in the stop beads or jambs. The blind can then be taken down by simply lifting it off the screws.

Roll Head and also Regular Blinds can be furnished with slats tenoned on ends, which work in rabbetted guides at each side, as shown in illustration. These guides are furnished for full height of window, finished same as blinds and can be placed on stop beads or jambs, or can be used for window stops.

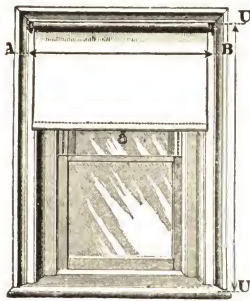
Venetian Blinds with Roll Heads, per blind extra.....	\$0.80
Venetian Blinds with Tenoned Slats, per blind extra.....	.80



## Cloth Window Shades

(Opaque)

### Directions for Taking Measurements

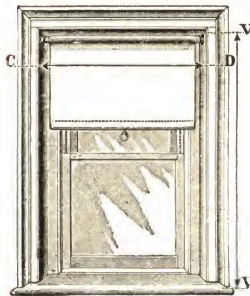


Outside Shade

For "Outside" Shades.—When Shades are to be placed on the outside or surface of the casing (which is the best place for hanging all shades, and should be adopted when practicable, as less nicety is required in measuring), give measurements from A to B for width at points where brackets are to be fastened and from U to U for length of Shade, saying "measurements for 'Outside Shades.'" The shades when sent you will be from 1 to  $1\frac{3}{4}$  inches narrower than your figures, to allow necessary margin on each end of roller.

For "Inside" Shades.—When Shades are to be placed on the inside of the casings, give measurements from C to D for width (the exact distance from casing to casing, at points where brackets are to be fastened), and from V to V for length, and say "measurements for 'Inside Shades.'" Great care must be taken; there should not be a discrepancy of 1-32 of an inch. Each window should be measured separately.

The following prices are for Shades mounted on Hartshorn Spring Rollers, ready to hang. Prices are for Single Shades.



Inside Shade

Length in feet.	—Width in Inches—				
	38	42	45	48	54
5 feet .....	\$0.84	\$1.10	\$1.22	\$1.32	\$1.76
5½ feet .....	.88	1.16	1.30	1.40	1.86
6 feet .....	.98	1.22	1.38	1.48	1.96
6½ feet .....	1.02	1.30	1.44	1.56	2.04
7 feet .....	1.08	1.36	1.54	1.64	2.14
7½ feet .....	1.12	1.42	1.62	1.72	2.24
8 feet .....	1.28	1.56	1.68	1.80	2.32
8½ feet .....	1.32	1.62	1.76	1.88	2.42
9 feet .....	1.38	1.68	1.84	1.96	2.52

## Frampton Window Shade

This shade is made of a fine quality of soft finished sail cloth, and is suspended from a single cord passing through a self-acting catch pulley in the center of the window casing. This lets down from the top by means of this cord and pulley. There is no spring roller and the shade does not roll up, but the same advantage is obtained by means of a hook at the bottom, which engages with eyelets in a flexible strap attached to the top, and when hooked to the upper eyelet lessens the length of the shade one-half. This can be done again and the length reduced to one-fourth. It has the advantage in that the entire window or any part of it can be darkened.

### Prices

44 in. wide and under, not over 7 ft. long.....	\$3.00
Over 44 in. wide to 50 in., not over 7 ft. long.....	3.50
Over 50 in. wide to 59 in., not over 7 ft. long.....	4.00
Over 59 in. wide to 70 in., not over 7 ft. long.....	5.00

For shades over 7 ft. long, 50 in. wide and under, add 2 cents per inch. For wider than 50 in., over 7 ft. long, add 3 cents per inch.







### THE AMERICAN ADJUSTABLE FOLDING WINDOW SHADE

These shades are made of cotton duck or canvas, and contain no clay filler, paint or starch. Regular stock is dyed a fast tan or a fast green color, but they can also be furnished in the natural gray, undyed.

There are no spring or other rollers, both top and bottom ends being controlled by means of a simple cord and two pulleys. The number of parts are thus extremely few and simple, so that the shades cannot get out of order.

The shade folds up to one-sixth its length, this being done automatically and at one single pull. It may also be lowered from the top by pulling the other end of the same cord. Anyone can operate the shade by pulling the cord and letting go in a natural manner.

By means of this shade a soft, diffused light is permitted to fall just in the right place. By lowering the shade from the top the bright light from the sky falls over the shoulder on the work in hand. Seven-eighths of the window may be exposed in one second and at one

operation, and the bottom end of the window may also be covered or exposed with equal facility.

In the matter of ventilation the benefits are too obvious to require mention. If the sash is lowered, lower the shade, too. This prevents flapping, and allows a free circulation of air without danger from draughts.

All shades are made to order and should hang between the window casings. They look better, and fill the entire space as no other style shade can.

Price, per square foot.....\$0.18

### THE AMERICAN ADJUSTABLE ROLLER WINDOW SHADE

The material is of the best grade of canvas or ducking, and the rollers, specially built, are large, strong and of the best material. These rollers will not run away or buzz, because they are provided with a positive stop or locking device that automatically catches the roller by means of a gravity hook the moment the operator releases his hold on the bottom pull. The top stick is of strong hard wood.

The shade is operated by means of a cord and pulley and is so simple a child can adjust it without being instructed in any of its peculiarities. All that is necessary to do is to pull and then let go in a natural manner.

This shade rolls up from the bottom at the same time that it lowers from the top, and for this reason does not lie upon the floor in the oil and dirt when lowered. Another point of importance is the fact that in lowering or raising the shade the operator must take hold of the cord or the bottom pull. The shade cannot be operated by taking hold of the cloth, and soiling it by dirty fingers is thereby avoided.

The window can be opened either at top or bottom and shade adjusted accordingly, thereby avoiding any obstruction to the air currents or flapping of the shade.

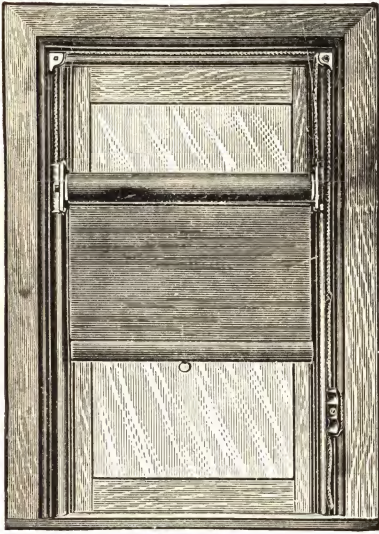
Stock is carried in two colors—Fast Green and Fast Tan—and all shades are made to order. We recommend that this shade be hung on outside, or face of casings, and in taking measurements the width should be given from end to end of shade roller, and then give the height of the window.

Price, per square foot.....\$0.20





## The Johnson Window Shade Adjuster



Perfect in Construction. Is Worthy of Investigation. Indispensable in Schools, Colleges and Office Buildings.

Works on a Special Pattern of Window Stop, Specified by Leading Architects and Put in New Buildings by Contractors.

Write for Samples of Stop, with full particulars.



Gives light and ventilation above the shade. Can be used with old or new shades of any size, and can be put up by anyone. Nothing to rust or get out of order.

The small cut shows the detailed drawing of window stop used; is made by the mills and put in new buildings, same as any other stop. The shade roller brackets are brass (nickel-plated), made in two parts, which clasp together on window stop without removing it. Also made to slide only in the grooves of stop, and do not mar the finish of it.

These brackets are held at any desired height by means of the very best braided cord, which runs smoothly over  $\frac{3}{4}$ -inch brass, machine-turned pulleys. The single cord on right-hand side of window is used to adjust the shade roller, and is securely fastened by cleat shown on cut.

Price, per set..... \$1.00

Stops in stock in 5, 6, 7 or 8 foot lengths, per foot, 5 cents.

### THE SIM-PULL SHADE REGULATOR

This is one of the simplest and most practical devices on the market for adjusting window shades. It is easily attached and fits any shade or window.

By its use the shade can be regulated so that the window can be lowered from the top, allowing the air to circulate freely, and admitting light from upper part of window, while lower part is shaded.

Finished in oxidized copper and all parts furnished complete.

In ordering specify whether Inside or Outside Bracket Fixture is wanted.

#### PRICES:

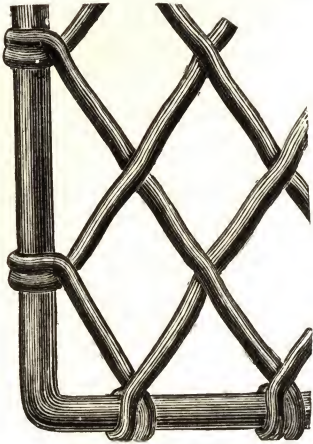
15 in. drop.	Per doz. sets.....	\$ 5.00
30 in. drop.	Per doz. sets.....	8.00
45 in. drop.	Per doz. sets.....	10.00

*Prices Do Not Include Window Shades*



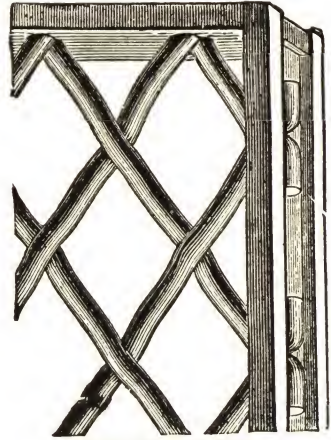


## Wire Window Guards



No. 20 Style of Frame.  
Cut shows method of making wire window guards with round iron frame, and how the wire is secured to it.

Protect windows from breakage and your houses from thieves. Admit light and ventilation. Never wear out.



No. 21 Style of Frame.  
Cut shows method of making wire window guards with a channel iron frame and how the wire is secured.

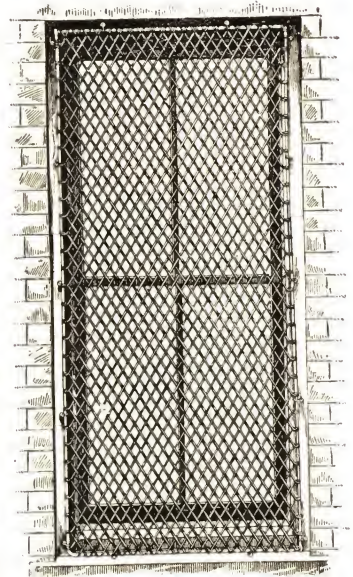
Why be annoyed with the continual expense of putting in window panes and repairing shutters, or by having your school houses turned into lodging places for tramps when you can have protection by using our Wire Window Guards? These wire guards cover the entire window, are always in place, and being securely fastened to the window frames, give ample protection.

### Directions for Ordering

The No. 20 style can be fastened to the face of the outer casing, or to the inner edge of the outer casing in the place where a blind or shutter usually goes. For this style of guard give us the **outside measurement** of the guard ordered.

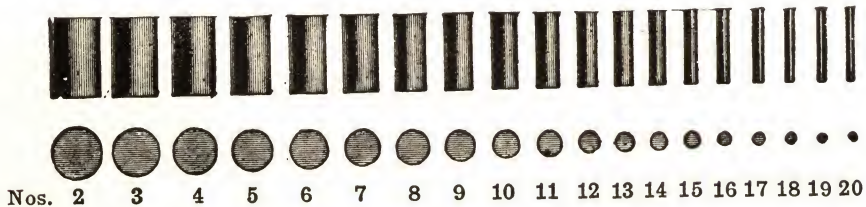
No. 21 must fit the inside line of casing.

State the size of mesh, the number of wire to be used, the style of frame you want and the color of paint wanted.



Complete Window Guard, with No. 20 Style Frame.

### Illustration Showing Exact Size of Various Gauges of Wire



Nos. 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Guards made with  $1\frac{1}{4}$  or  $1\frac{1}{2}$  inch mesh from No. 11 or 12 wire are most popular.

With No. 20 frame, per square foot, price .....	\$0.18
With No. 21 frame, per square foot, price .....	.24

Prices on Other Sizes of Wire and Mesh Upon Application.



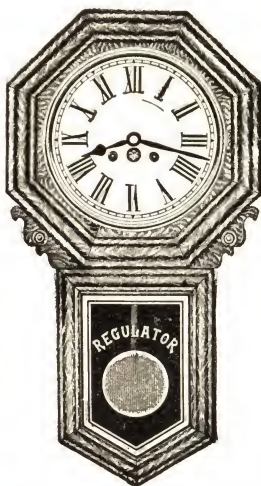
## Clocks



**DROP OCTAGON**

Solid Oak

Height, 24-in.; 12-inch dial.  
 8-day time.....\$6.00  
 8-day time, with calendar ..... 6.50  
 8-day strike..... 7.50  
 8-day strike, with calendar ..... 8.50



**ERIE REGULATOR**

Solid Oak

Height, 32 in.; 12-in. dial.  
 8-day time.....\$ 8.50  
 8-day time, with calendar ..... 8.75  
 8-day strike ..... 9.50  
 8-day strike, with calendar ..... 10.00



**BRANFORD  
DROP OCTAGON**

Solid Oak

Height, 24-in.; 12-inch dial.  
 8-day time.....\$6.00  
 8-day time, with calendar ..... 6.50  
 8-day strike..... 7.50  
 8-day strike, with calendar ..... 8.50



**VAMOOSE REGULATOR**

Solid Oak or Mahogany

Height, 32 in.; 12-in. dial.  
 8-day time.....\$ 8.50  
 8-day time, with calendar ..... 8.75  
 8-day strike..... 9.50  
 8-day strike, with calendar ..... 10.00



Wood Lever. 12-in. dial.  
 8-day time.....\$7.50  
 8-day time, with calendar ..... 8.00



**DESK CLOCK**

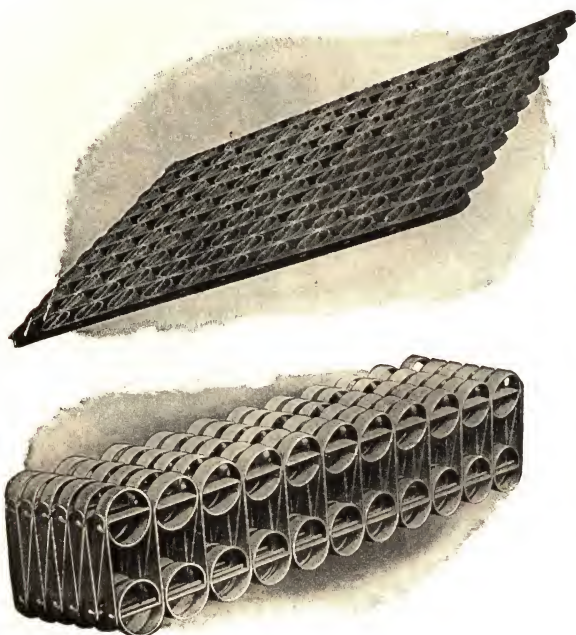
2-inch dial. Nickel-plated or enameled.  
 1-day time.....\$1.75

The Regulator Clocks illustrated on this page are the best and most reliable time pieces we have been able to secure. The cases are made of well seasoned and selected wood, and the movements, which are of the Standard Cabinet Pattern, are technically correct in every detail.

All of these patterns are fully guaranteed and warranted to give complete satisfaction.



## The Glen Steel Folding Mat

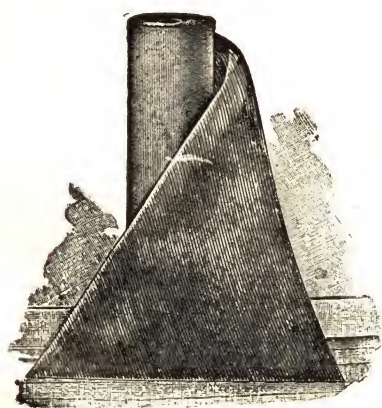


The only mat that can be folded up and rolled up. Lies flat on an uneven floor and the corners will not curl up. It is reversible, makes no difference which way it is put down. It is a perfect scraper and easily cleaned. When not in use it can be folded compactly and put away without taking up much room.

No. 2.	Size, 15½x23½ inches,	each \$ 1.50
No. 3.	Size, 17¼x30 inches,	each 2.00
No. 4.	Size, 21½x36 inches,	each 3.00
No. 5.	Size, 25½x48 inches,	each 4.50
No. 6.	Size, 29¾x48 inches,	each 5.25
No. 7.	Size, 34¼x50 inches,	each 6.50
No. 8.	Size, 35¾x60 inches,	each 8.00
No. 9.	Size, 35¾x72¾ inches,	each 10.00

Special Sizes, per square foot, 75 cents.

## Corrugated Rubber Matting and Stair Treads



Made in rolls, 36 inches wide.

We will cut this matting into stair treads of any size without charge for cutting. We charge for full amount of matting used.

Price .....per yard \$2.00

## Steel Wire Mats

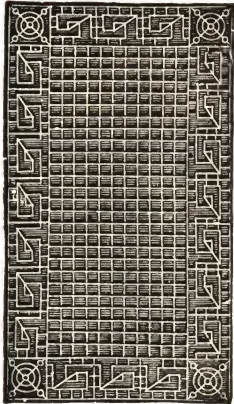


Galvanized Steel Wire, Rigid Frame

No. 2.	Size, 16x24.....	each \$ 1.50
No. 3.	Size, 18x30.....	each 2.00
No. 4.	Size, 22x36.....	each 3.00
No. 5.	Size, 26x48.....	each 4.50
No. 6.	Size, 30x48.....	each 5.25
No. 7.	Size, 36x48.....	each 6.50
No. 8.	Size, 36x60.....	each 8.00
No. 9.	Size, 36x72.....	each 10.00



## Diamond Rubber Door Mats



7-16 inch thick.

Price, each.

No. 1	18x30 in., oblong, fancy center, fancy border.....	\$1.25
No. 1D.	18x30 in., oblong, diamond center, fancy border.....	1.60
No. 2.	18x30 in., oblong, diamond center, fancy border.....	1.60
No. 3.	18x30 in., oblong, diamond center, plain border.....	1.60
No. 4.	18x36 in., oblong, diamond center, fancy border.....	1.75
No. 5.	20x40 in., oblong, diamond center, fancy border.....	2.00
No. 6.	17x31 in., oblong, square center, fancy border.....	1.25
No. 7.	17x31 in., oblong, diamond center, fancy border.....	1.25

## Cocoa Matting

	Inches wide 18	27	36	45	54
All Cocoa Matting, plain, per lin. yd....	43c	64c	86c	\$1.07	\$1.29
All Cocoa Matting, striped, per lin. yd..	47c	71c	94c	1.18	1.41
All Cocoa Matting, fancy stripe, new style, reversible (same on both sides) per lin. yd.....	58c	87c	\$1.16	1.45	1.74

Zinc Ends for Matting, for all widths, 28c per yard end; riveted to matting, 50c per yard of ends. Matting rivets and burrs (copper), 10c per dozen sets.

Rubber Ends for Matting, all widths, at \$1.10 per yard end; sewed onto matting, \$1.50 per yard of ends.

## Cocoa Mats

	Each.
Mottled—	
14x25 inches .....	\$0.74
16x27 inches .....	1.06
18x30 inches .....	1.36
20x33 inches .....	1.60
Medium Quality—	
14x25 inches .....	.88
16x27 inches .....	1.18
18x30 inches .....	1.48
20x33 inches .....	1.76
Improved—	
16x27 inches .....	1.58
18x30 inches .....	2.00
20x33 inches .....	2.50
22x36 inches .....	3.04
24x39 inches .....	3.66
26x42 inches .....	4.40
28x45 inches .....	5.26
30x48 inches .....	5.90

## Braided Cocoa Chain Mats

18x30 inches, each.....	\$1.60
20x33 inches, each.....	2.00
22x36 inches, each.....	2.40
24x39 inches, each.....	2.90



No. 1.



No. 2.



No. 3.

## Lettered Cocoa Mats

Each Mat Lettered "Welcome."	
16x27 inches, each.....	\$1.90
18x30 inches, each.....	2.40
20x33 inches, each.....	3.00

## Metal Stair Nozing

Used with Rubber Stair Treads.

### Brass

¾ inch and 1¼ inch, per foot.....	\$0.25
1½ inch, per foot.....	.28
2 inch, per foot.....	.44

### Zinc

¾ inch and 1¼ inch, per foot.....	\$0.11
1½ inch, per foot.....	.15
2 inch, per foot.....	.22

Special sizes to order. Brass nozings over 6 feet in length charged extra.

## Edison Standard Mimeograph



### Mimeograph Attachments to Above Autographic Machine for Reduplicating Typewriter Work Only

Designating  
Number.

30.	For use with Nos. 0 or 3.....	\$4.00
31.	For use with Nos. 1 or 4.....	5.00
32A.	For use with Nos. 2 or 5.....	6.50
*32B.	For use with Nos. 2 or 5.....	6.50

All of the above are furnished with supplies for immediate use. Black ink is always sent with Autographic and blue ink with Typewriter Reduplicating Machines unless otherwise ordered.

## Mimeograph Supplies

For use with Edison Standard Mimeographs Only

Designating  
Number.

300.	8x12 in. for Nos. 0 or 3.....	per	quire	\$0.60
301.	11x16 in. for Nos. 1 or 4.....	per	quire	.90
302.	14x20 in. for Nos. 2 or 5.....	per	quire	1.20

### Typewriter Stencil Paper

Including 24 porous top sheets, 24 oiled tissue type-protecting sheets and 2 backing sheets with each quire.

Designating  
Number.

350.	10½x15 in. for No. 12 Mimeograph.....	per	quire	\$2.00
351.	8 x10½ in. for No. 30 Attachment.....	per	quire	1.50
350.	10½x15 in. for No. 31 Attachment.....	per	quire	2.00
352.	14 x20 in. for No. 32A Attachment.....	per	quire	3.50
*353.	11 x20 in. for No. 32B Attachment.....	per	quire	2.50

\*To enable the users of the Nos. 2 and 5 Mimeographs to use No. 32 "B" paper, we have arranged to supply a stencil-holding frame, which will clamp 11x20-inch paper, and may be used in connection with the regular size No. 2 and 5 bases, thereby saving to the user \$1.00 per quire on cost of stencil paper. Price of Frame, net, \$2.00.

N. B.—The Stencil paper prepared for typewriters should not be used for autographic work, nor can the autographic stencil paper be used for typewriter work.

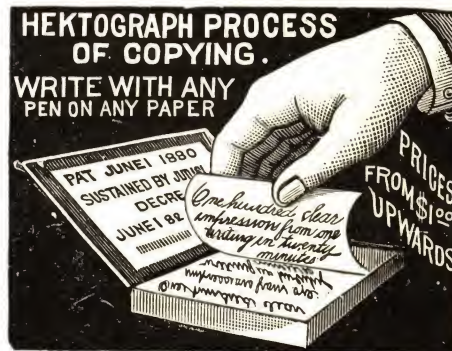
Designating  
Number.

### Inks, Silks and Other Supplies

380.	Blue ink, indelible, 6 oz. tube.....	\$0.90
381.	Purple ink, indelible, 6 oz. tube.....	.90
382.	Green ink, indelible, 6 oz. tube.....	.90
383.	Red ink, indelible, 6 oz. tube.....	1.20
384.	Black ink, indelible, 6 oz. tube.....	.60
389.	Blue ink, copying, 6 oz. tube.....	1.50
390.	Purple ink, copying, 6 oz. tube.....	1.50
391.	Green ink, copying, 6 oz. tube.....	1.50
392.	Black ink, copying, 6 oz. tube.....	1.50
400.	7x8 in. perforating silk for use with No. 30 attachment and No. 351 paper.....	.35
401.	8x12 in. perforating silk for use with No. 31 attachment and No. 350 paper.....	.50
402.	8x12 in. perforating silk for use with No. 12 machine and No. 350 paper.....	.50
403.	8x16 in. perforating silk for use with No. 32A attachment and No. 352 paper.....	.65
404.	8x16 in. perforating silk for use with No. 32B attachment and No. 353 paper.....	.65
410.	Writing Stylus.....	.15
411.	Music Stylus, with ruler.....	1.50
424.	Varnish, 2 oz. bottle.....	.20
425.	Varnish, half pint bottle.....	.60
426.	Varnish brush.....	.25



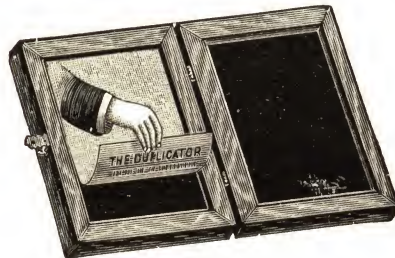
## The Hektograph



Prices, with Bottle of Ink and Sponge

Postal size, $4\frac{1}{2} \times 6\frac{1}{4}$ .....	\$1.00
Note size, $6\frac{1}{4} \times 10$ .....	2.00
Letter size, $10 \times 12\frac{1}{2}$ .....	3.50
Cap size, $10 \times 15$ .....	5.00
Folio size, $12 \times 18$ .....	6.50
100 clear copies from one writing in twenty minutes. Ink .....	.35

## The Lawton Duplicator



No washing the ink from the surface.

In 15 minutes from the time the copy is written 100 copies ready.

Ink is absorbed in an hour and surface is ready for use again.

### Prices Complete with Ink

With Two Surfaces.		With Four Surfaces.	
No. 0.	Postal size, $4\frac{1}{4} \times 6\frac{1}{2}$ .....	No. 5.	Postal size .....
No. 1.	Note size, $6\frac{3}{4} \times 9\frac{7}{8}$ .....	No. 6.	Note size .....
No. 2.	Letter size, $9 \times 11\frac{3}{8}$ .....	No. 7.	Letter size .....
No. 3.	Cap size, $9 \times 13\frac{5}{8}$ .....	No. 8.	Cap size .....
Ink—Red, Violet, Green and Blue .....		\$0.35	
Black .....		0.70	
Typewriter Ribbon .....		1.00	

Paper made expressly for this Duplicator and the Hektograph put up in pads of 250 each:

Folio size, per pad .....	\$1.80	Letter size, per pad .....	\$0.80
Cap size, per pad .....	1.35	Note size, per pad .....	.45

## Card Index Cabinets



Nos. 1535, 1546, 1558

Made of oak, finely finished. Each complete, with follow block and rubber feet. Cabinets are all 15 inches long outside. Capacity, 1,400 cards. Furnished with or without guides.

No.	To hold cards	Weight	Without Guides	With 40 Guides
1535	3x5	6½ lbs.	Price \$2.50	Price \$2.70
1546	4x6	8½ lbs.	Price 3.25	Price 3.55
1558	5x8	11¾ lbs.	Price 3.75	Price 4.15

### Oak Sectional Card Index Cabinets

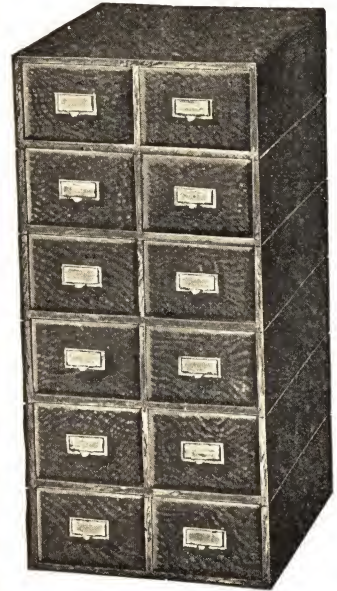
Two Drawer Top Section  
Nos. 325T, 426T, 528TTwo Drawer Bottom Section  
Nos. 325B, 426B, 528B

The section or unit system of cabinets is the most practical wherever there is a possibility that a larger capacity will be required, or that record cards will increase in number. Each top section is finished and complete in itself. Top should be purchased first, then the bottom sections can be added from time to time as occasion requires. Bottom sections cost considerably less than top. Any desired number of sections may be obtained and the cabinet will always be complete.

Top section should be ordered first, if only two-drawer capacity is wanted. Section is 15 inches long, has oak follow blocks. Capacity, 1,400 cards to drawer. When guide cards are specified it means each drawer has 40 division alphabetical guides.

Bottom section is not complete in itself. Should be used with top section.

Drawers have same capacity as top sections and same equipment.



One Top, Five Bottom Sections

No.	To hold cards	Weight	Without Guides	With 40 Guides
325T	3x5	11¾ lbs.	Price \$3.60	Price \$4.00
325B	3x5	9¾ lbs.	Price 3.00	Price 3.40
426T	4x6	14 lbs.	Price 4.25	Price 4.85
426B	4x6	11 lbs.	Price 3.50	Price 4.10
528T	5x8	20 lbs.	Price 5.00	Price 5.80
528B	5x8	14¾ lbs.	Price 4.25	Price 5.05

Note.—Unless otherwise specified we always send cabinets equipped with guide cards. Weights given are for goods unboxed. If locking rods are desired add 50 cents per drawer to list prices.

### Guide Cards for Cabinets

Alphabetical	For 3x5		For 4x6		For 5x8	
	No.	Price	No.	Price	No.	Price
25 Sub-Divisions	3255	\$0.15	4256	\$0.23	5258	\$0.30
40 Sub-Divisions	3045	.25	4046	.35	5048	.50
Blank, per 1,000	3005	4.25	4006	6.50	5008	11.00

### Plain and Ruled Cards—Standard Grade

All packed in boxes of 500 each. We do not break boxes.

No.	Size	Style Ruling	Price per 1,000
350	3x5	Blank	\$1.40
351	3x5	Record or Faint Ruled	1.50
352	3x5	Standard Ruled	1.50
460	4x6	Blank	2.50
461	4x6	Record or Faint Ruled	2.70
462	4x6	Standard Ruled	2.70
580	5x8	Blank	4.00
581	5x8	Record or Faint Ruled	4.40
582	5x8	Standard Ruled	4.40

### Medium Grade.

No.	Size	Style Ruling	Price per 1,000
350A	3x5	Blank	\$1.20
351A	3x5	Record or Faint Ruled	1.30
352A	3x5	Standard Ruled	1.30
460A	4x6	Blank	2.20
461A	4x6	Record or Faint Ruled	2.40
462A	4x6	Standard Ruled	2.40

If cards are to be punched for rods, add 50 cents per 1,000 to list prices.



## Schoolhouse Flags



These Flags are made of the best quality All-Wool Bunting and are the best finished and strongest on the market. Seams all double stitched; hems made with interlining of strong tape. Small sizes finished with canvas heading and grommets. Large sizes, from 10 foot up, with strong canvas heading and manila rope. Full complement of 48 stars, sewed on both sides of the field, with the exception of the two smallest sizes, which have 13 stars.

Length, 3 feet.....	price \$1.75	Length, 15 feet... ..	price \$13.00
Length, 4 feet.....	price 2.00	Length, 16 feet.....	price 15.00
Length, 5 feet.....	price 2.50	Length, 18 feet.....	price 17.00
Length, 6 feet.....	price 3.25	Length, 20 feet.....	price 20.50
Length, 7 feet.....	price 4.25	Length, 25 feet.....	price 28.00
Length, 8 feet.....	price 4.75	Length, 28 feet.....	price 36.00
Length, 10 feet.....	price 7.25	Length, 30 feet.....	price 45.00
Length, 12 feet.....	price 10.00	Length, 36 feet.....	price 56.00
Length, 14 feet.....	price 11.00	Length, 40 feet.....	price 66.00

Cotton, warranted fast colors, 8 feet, \$3.00

## FLAG POLES



Wooden Truck, Ball and Halyard.

8-foot, tapered .....	\$1.20	14-foot, tapered .....	\$3.00
10-foot, tapered .....	1.50	16-foot, tapered .....	4.00
12-foot, tapered .....	1.80		

## Muslin Decorating Flags

No. 1. 2 x 3 inches.....	per gross \$0.35	No. 6. 8x14 inches.....	per gross \$ 3.33
No. 2. 2½ x 4 inches.....	per gross 0.42	No. 7. 11x18 inches.....	per gross 5.07
No. 3. 3½ x 6 inches....	per gross 0.70	No. 7½. 12x22 inches.....	per gross 6.50
No. 4. 4½ x 7½ inches.....	per gross 0.94	No. 8A. 14x24 inches.....	per gross 7.41
No. 5. 6 x 9½ inches.....	per gross 1.72	No. 8. 18x27½ inches.....	per gross 10.40
No. 5½ 7 x 10½ inches.....	per gross 2.21	No. 9. 20x36 inches.....	per gross 17.94

## School and Church Bells



These bells are made of steel and should not be confused with bells sold in various alloy names that, in the majority of cases, are nothing but common iron treated to some trifling process of little consequence and less value.

Our bells are passed through a double process of melting and mixing, producing a very superior metal of unusual durability. This, when formed into bells of proper dimensions, produces a tone of unrivaled purity and penetration; hence far sounding.

The bells are all mounted before leaving the foundry, and are put through a severer test than they are ever liable to get during use. Bearings are fitted, bell bowl properly balanced, springs properly adjusted and all bolts absolutely secure.

All bells are guaranteed to be as represented, and all over 22 inches in diameter are fully warranted against breakage, by ordinary and proper usage, for five years. If breakage occurs after the time of warranty expires, a new bell bowl will be furnished at one-half the original price. Written warranty to this effect is sent with every bell.

The tone of the bell is considered first, and then follows good substantial mountings. Bells from 36 to 48 inches, inclusive, are fitted with special designed encased roller bearings.

These Bells Are Numbered by the Diameter in Inches

### SCHOOL BELLS

List No. and Diameter	Weight of Bell Only	Weight of Bell and Mountings	Price	List No. and Diameter	Weight of Bell Only	Weight of Bell and Mountings	Price
20 in.	108 lbs.	160 lbs.	\$16.00	26 in.	227 lbs.	345 lbs.	40.00
22 in.	124 lbs.	210 lbs.	20.00	28 in.	265 lbs.	420 lbs.	50.00
24 in.	165 lbs.	265 lbs.	25.00	30 in.	310 lbs.	520 lbs.	60.00

### CHURCH BELLS

30 in.	310 lbs.	540 lbs.	\$ 65.00	40 in.	820 lbs.	1,270 lbs.	150.00
32 in.	400 lbs.	610 lbs.	75.00	42 in.	930 lbs.	1,380 lbs.	165.00
34 in.	490 lbs.	745 lbs.	90.00	44 in.	1,070 lbs.	1,585 lbs.	200.00
36 in.	580 lbs.	910 lbs.	110.00	46 in.	1,180 lbs.	1,710 lbs.	225.00
38 in.	695 lbs.	1,020 lbs.	125.00	48 in.	1,460 lbs.	2,100 lbs.	250.00

The weights and prices above named are for complete bells and include wood sills, wheel for rope and, for all Church Bells, tolling hammers. Tolling hammers can also be furnished for School Bells when so ordered, at \$5.00 each extra.

All bells above 20 inches have springs to prevent clapper from striking the bell at any time, the ends of springs having leather tips to prevent rapping.

## Crystal Metal Farm Bells



No. 1, 2 & 3—Farm Bells.

	Price.
No. 1. Diameter, 15 in.; weight, 40 lbs..	\$ 4.00
No. 2. Diameter, 17 in.; weight, 50 lbs..	5.00
No. 3. Diameter, 19 in.; weight, 75 lbs..	7.50
No. 4. Diameter, 21 in.; weight, 100 lbs..	10.00



No. 4—Farm Bell.



## Blymyer Bells



No. 1.

### SCHOOL BELLS, WITH No. 1 MOUNTINGS

List No.	Weight of Bell and Diam.	Weight of Bell	Weight of Bell and Mountings.	Price.	List No.	Weight of Bell and Diam.	Weight of Bell	Weight of Bell and Mountings.	Price.
22 in.	125 lbs.	225 lbs.		\$ 30.00	28 in.	250 lbs.	400 lbs.		\$ 60.00
24 in.	155 lbs.	300 lbs.		40.00	30 in.	300 lbs.	500 lbs.		75.00
26 in.	200 lbs.	350 lbs.		50.00					

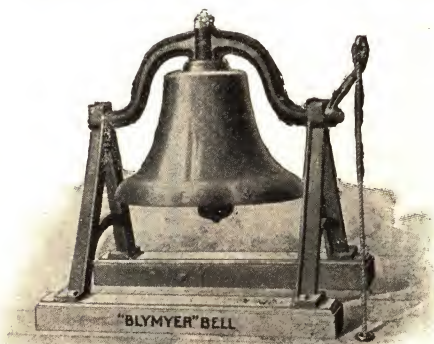
### CHURCH BELLS, WITH No. 1 MOUNTINGS.

List No.	Weight of Bell and Diam.	Weight of Bell	Weight of Bell and Mountings.	Price.	List No.	Weight of Bell and Diam.	Weight of Bell	Weight of Bell and Mountings.	Price.
32 in.	375 lbs.	550 lbs.		\$ 90.00	44 in.	1,000 lbs.	1,400 lbs.		\$220.00
34 in.	450 lbs.	700 lbs.		105.00	46 in.	1,100 lbs.	1,500 lbs.		250.00
36 in.	550 lbs.	800 lbs.		125.00	48 in.	1,325 lbs.	1,800 lbs.		280.00
38 in.	650 lbs.	950 lbs.		145.00	50 in.	1,500 lbs.	2,200 lbs.		325.00
40 in.	800 lbs.	1,100 lbs.		170.00	52 in.	1,750 lbs.	2,500 lbs.		375.00
42 in.	900 lbs.	1,200 lbs.		190.00	54 in.	2,000 lbs.	2,900 lbs.		450.00

### WITH No. 4 MOUNTINGS

List No. and Diam.	Weight Complete.	Price.
18 in.	135 lbs.	\$15.00
20 in.	165 lbs.	20.00
22 in.	200 lbs.	25.00
24 in.	240 lbs.	30.00

Please note that the list prices are for bell and mountings complete, and for sizes 32 to 54, tolling hammer without extra charge. Tolling hammer for sizes 22 to 30-inch, \$5.00 extra.



No. 4.

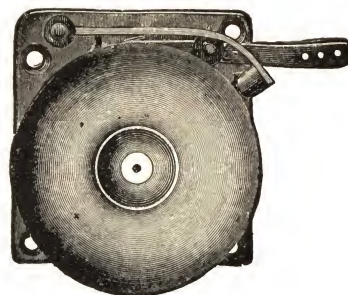
## Call Bells



No. 9200.

No. 9200.	Diameter, 2½ inches.....	\$1.00
No. 9448.	Diameter, 2½ inches.....	.85
No. 9403.	.....	1.45
No. 9402.	Tall Stand .....	1.50
No. 9404.	Diameter, 3 inches.....	1.80
No. 9413.	Electric. Diameter, 3 in... ..	2.00
No. 26.	Ordinary .....	.50

## Gongs



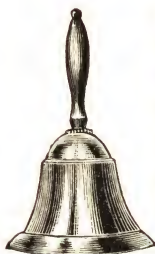
4-inch Diameter .....	\$ 3.30
5-inch Diameter .....	4.25
6-inch Diameter .....	5.00
7-inch Diameter .....	6.00
8-inch Diameter .....	7.85
10-inch Diameter .....	10.30
12-inch Diameter .....	16.50
15-inch Diameter .....	30.50

## Standard Thermometer



No. 85. 8-inch Dial. Brass Case.....\$6.00

## Brass Hand Bells



No. 4.	Diameter, 3¼ in.	\$0.55
No. 5.	Diameter, 3½ in.	.70
No. 6.	Diameter, 4 in.	.95
No. 7.	Diameter, 4½ in.	1.15
No. 8.	Diameter, 5 in.	1.60
No. 9.	Diameter, 5½ in.	2.00
No. 10.	Diameter, 6 in.	2.50
No. 12.	Diameter, 6½ in.	3.00

## Ordinary Thermometers

### Fahrenheit Tested

#### Mercury, Metal Frame

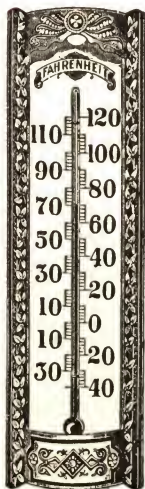
No. 1D.	7-inch .....	\$0.27
No. 2D.	8-inch .....	.31
No. 3D.	10-inch .....	.38
No. 4D.	12-inch .....	.47

#### Standard Grade, Tested

No. 76.	8-inch .....	\$2.20
No. 77.	10-inch .....	2.95
No. 78.	12-inch .....	3.65

### Distance

No. 12.	Tin Case, 10-inch.....	\$0.50
No. 14.	Wood Case, 10-inch.....	.60
No. 1222.	10-inch .....	1.95



No. 12.



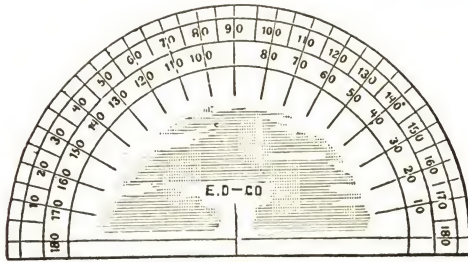
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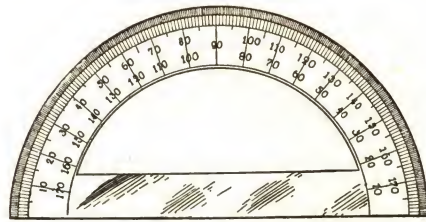
No. 1222.



## Protractors



No. 1921



No. 1936

### Horn Protractors

No. 1920.	Horn Protractor, 4 in. diameter, half circle, whole degrees.	Each.....\$0.21
No. 1921.	Horn Protractor, 5 in. diameter, half circle, half degrees.	Each..... .37
No. 1922.	Horn Protractor, 6 in. diameter, half circle, half degrees.	Each..... .44

### Metal Protractors

No. 1936.	Brass Protractors, 4 in. diameter, half circle, half degrees.	Each.....\$0.25
No. 1937.	Brass Protractors, 5 in. diameter, half circle, half degrees.	Each..... .60
No. 1938.	Brass Protractors, 6 in. diameter, half circle, half degrees.	Each..... .90

## Triangles

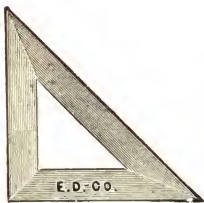
Pear Wood—Open, Mortised Joints. Best Quality.

No. 2007—45 degrees.

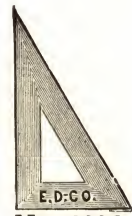
Size—	6 in.	8 in.	10 in.	12 in.
Each . . . . .	\$0.18	\$0.24	\$0.30	\$0.36

No. 2006—30x60 degrees.

Size—	8 in.	10 in.	12 in.	14 in.
Each . . . . .	\$0.18	\$0.24	\$0.30	\$0.36

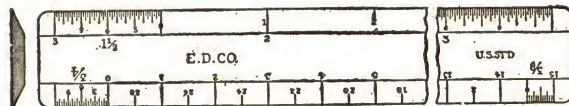


No. 2007.



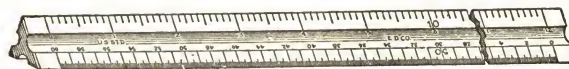
No. 2006.

## Scales



### Flat Boxwood Scales

No. 1351.	6 inches long, divided $\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{1}{2}$ , 1 inch to the foot.....	Each \$0.46
No. 1356.	12 inches long, divided $\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{1}{2}$ , 1 inch to the foot.....	Each .70
No. 1371.	6 inches long, divided $\frac{3}{8}$ , $\frac{3}{4}$ , $1\frac{1}{2}$ , 3 inches to the foot.....	Each .46
No. 1376.	12 inches long, divided $\frac{3}{8}$ , $\frac{3}{4}$ , $1\frac{1}{2}$ , 3 inches to the foot.....	Each .70



### Triangular Boxwood Scales

No. 1626.	12 in., divided $\frac{3}{32}$ , $\frac{3}{16}$ , $\frac{1}{8}$ , $\frac{1}{4}$ , $\frac{3}{8}$ , $\frac{1}{2}$ , $\frac{3}{4}$ , 1, $1\frac{1}{2}$ , 3 in. to ft. and $\frac{1}{16}$ in. Ea.	\$0.54
No. 1636.	12 in., divided 10, 20, 30, 40, 50, 60, parts to inch.....	Ea. .54

## Thumb Tacks



No. 2430.	Brass, $\frac{3}{8}$ in. diam., 1 doz. in tin box, per doz boxes . . . . .	\$0.96
No. 2440.	Steel, $\frac{5}{16}$ in diam., per box of 100.....	.32
No. 2441.	Steel, $\frac{3}{8}$ in. diam., per box of 100.....	.39
No. 2442.	Steel, $\frac{1}{2}$ in. diam., per box of 100.....	.49



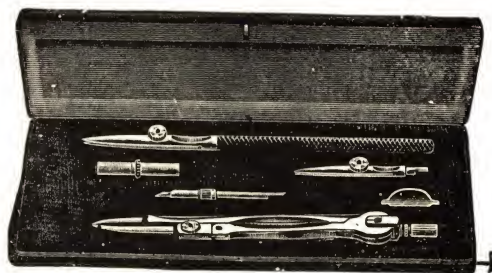


## School Drawing Instruments

German Silver. In Leather Covered, Velvet-Lined Cases



No. 1215



No. 1217

No. 1215. Containing  $5\frac{1}{4}$ -in. Compasses with pen and pencil points. Key and lead box. Price. \$1.10

No. 1217. Containing  $5\frac{1}{4}$ -in. Compasses with pen and pencil points; 5-in. Ruling Pen, metal handle. Key and lead box. Price..... 1.30



No. 1221



No. 1223

No. 1221. Containing  $5\frac{1}{4}$ -in. Compasses with pen, pencil point and lengthening bar;  $5\frac{1}{4}$ -in. dividers; 5-in. Ruling Pen, metal handle. Key and lead box. Price.....\$1.80

No. 1223. Containing  $5\frac{1}{4}$ -in. Compasses with pen, pencil point and lengthening bar;  $5\frac{1}{4}$ -in. Dividers;  $3\frac{1}{4}$ -in. Spring Bow Pen; 5-in. Ruling Pen, metal handle; Key and lead box. Price ..... 2.50



No. 1180



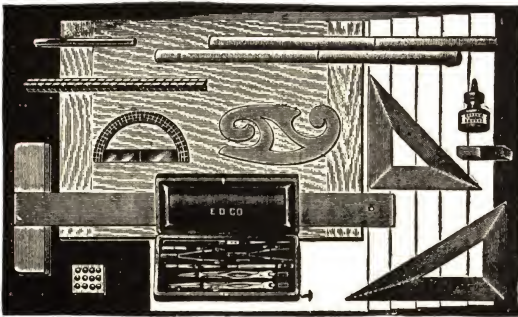
No. 1183

No. 1180. Containing  $5\frac{1}{2}$ -in. Ruling Pen, 6-in. Plain Dividers, 6-in. Compasses with fixed needle point, pen, pencil point, lengthening bar and box with leads. Price.....\$3.40

No. 1183. Containing  $5\frac{1}{2}$ -in. Ruling Pen,  $3\frac{1}{4}$ -in. Spring Bow Pen, 6-in. Plain Dividers, 6-in. Compasses with fixed needle point, pen, pencil point, lengthening bar and box with leads. Price ..... 4.00



## School Drawing Instruments



### DRAWING OUTFIT No. 1287

These outfits are specially adapted for home use and for students taking the engineering and mechanical drawing courses of the Correspondence Schools. The instruments and materials are good and serviceable in every respect.

Consists of the following:

1 set Drawing Instruments in case, containing:  
 5¼-in. Compasses, with pen, pencil point and lengthening bar; 5¼-in. Dividers; 3¼-in. Spring Bow Pencil; 3¼-in. Spring Bow Pen; 5-in. Ruling Pen, metal handle; Key and Lead Box.

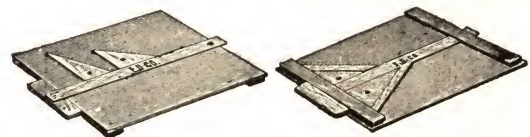
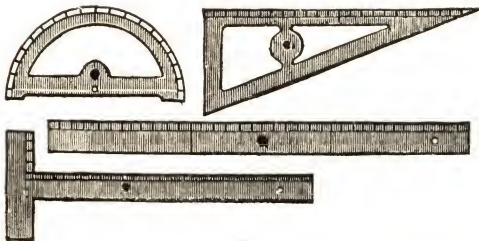
- 1 Drawing Board, pinewood, 16x22 in.
- 1 T Square, pearwood, 24 in.
- 1 Protractor, brass, 4¼ in.
- 1 Triangular Scale, boxwood, 12 in.
- 1 Triangle, 30° x 60°, pearwood, 8 in.
- 1 Triangle, 45°, pearwood, 6 in.
- 1 Irregular Curve, pearwood.

- 1 dozen Steel Tacks, ⅜ in., on card.
- 1 Drawing Pencil, 4 H.
- 1 bottle Waterproof Black Ink.
- 1 Ink and Pencil Eraser.
- 2 Sheets Tracing Cloth, 15x20 in.
- 6 Sheets Drawing Paper, Cream, 15x20 in.

Outfit complete ..... Each, \$8.30

### SCHOOL DRAWING OUTFIT

The School Drawing Outfit consists of a well-made board, T square and two triangles. The board is so constructed that when the T square and triangles are not in use they are held firmly to the under side of the board. It is compact, inexpensive and durable, and makes an excellent outfit for school, home, or traveling use.



- No. 1302. 10x12 in. Each.....\$0.60
- No. 1304. 13x19 in. Each..... .90
- No. 1306. 17x22 in. Each..... 1.40

### BLACKBOARD DRAWING SET

- No. 1298. Wooden Blackboard Drawing Set, consisting of 24-in. T Square, 36-in. Straight Edge, 24-in. Triangle, all divided to inches, and 15½-in. Protractor. Per set.....\$6.20
- No. 1298A. T Square of above set. Each..... 1.55
- No. 1298B. Straight Edge of above set. Each..... 1.55
- No. 1298C. Triangle of above set. Each..... 1.55
- No. 1298D. Protractor of above set. Each..... 1.55

### DRAWING BOARDS

Pine. With two drawing surfaces and side ledges.

No. 2265X

Size .....	16x22 in.	20x24½ in.	23x31 in.
Each .....	\$0.80	\$0.90	\$1.40



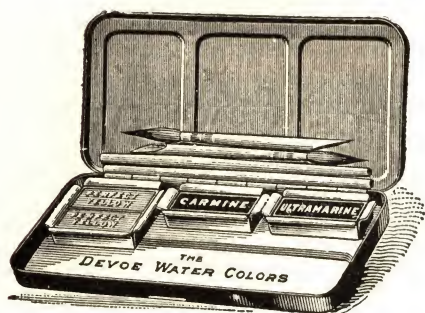
### T SQUARES



- No. 2070. Plain Maple with fixed head.
- Size .....18 in. 24 in. 30 in. 36 in.
- Each .....\$0.30 \$0.35 \$0.45 \$0.55
- No. 2070D. Plain Maple with movable head.
- Size .....18 in. 24 in. 30 in. 36 in.
- Each .....\$0.60 \$0.75 \$0.80 \$0.90

## School Water Color Boxes

### Enameled Tin Boxes

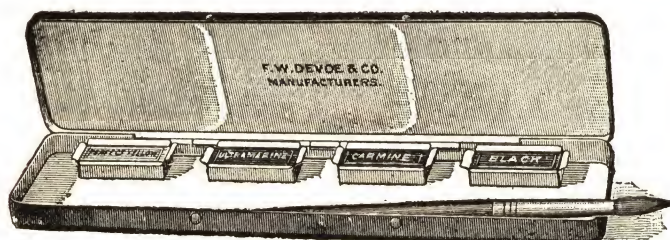
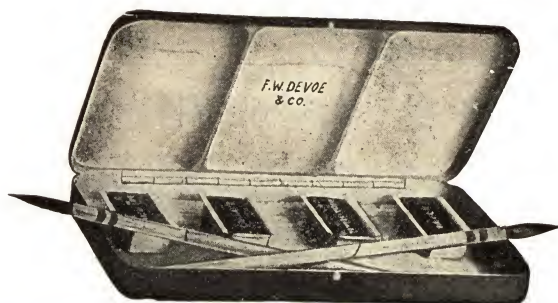


No. 2. Containing four cakes and two quill brushes. One cake each Carmine, Ultramarine Blue and two cakes Perfect Yellow. Per dozen boxes...\$2.50

No. 2½. Containing same colors as No. 2, but instead of the two quill brushes, a long-handled, large brush, No. 7, is supplied. Per dozen boxes..... 2.50

Either set without brushes. Per dozen boxes. 2.00

No. 22. Containing four cakes and two quill brushes. One cake each Perfect Yellow, Carmine, Ultramarine Blue and Black. Per dozen boxes...\$3.00



No. 122. Containing four cakes and one long-handled No. 7 brush. One cake each Black Carmine, Ultramarine Blue and Perfect Yellow. Box 8 in. long. Per dozen boxes . . . . . \$3.15

No. 122C. Containing one cake each Carmine, Ultramarine Blue and two cakes Perfect Yellow, with one long-handled No. 7 brush. Per dozen boxes..... 3.50

## Water Color Cakes



Perfect Yellow, Carmine, Ultramarine, Charcoal Gray, Black and White, for refilling  
Nos. 2, 2½, 22, 122 and 122C. Per dozen cakes .....\$0.40

## Gold and Silver Water Colors

Gold, in half pans. Per dozen.....\$0.40  
Silver, in half pans. Per dozen..... 40



## School Moist Water Colors

In Japanned Tin Boxes, with Removable Tray



- No. 3. Five half pans—Crimson, Gamboge, New Blue, New Green, Burnt Sienna and brushes. Per dozen boxes . . . . . \$3.20



- No. 4. Seven half pans—Crimson, Orange, Gamboge, Violet, New Green, New Blue, Burnt Sienna and brushes. Per dozen boxes . . \$3.50



- No. 4 1/2. Eight half pans—Containing Crimson, Gamboge, New Blue, New Green, Burnt Sienna, Orange, Violet and Yellow Ochre, with 2 quill brushes. Per dozen boxes . . . . . \$3.60

- No. 4 1/2 C. Eight half pans—Containing Crimson, Orange, Gamboge, Green, New Blue, Violet, Warm Gray, Cold Gray, with 2 quill brushes. Per dozen boxes . . . . . 3.60

- No. 4 1/2 E. Same as No. 4 1/2 C—With 1 no. 7 long handle camel hair brush, instead of 2 quill brushes. Per dozen boxes . . . . . 3.40



- No. 115. Five half pans—Crimson, Gamboge, New Blue, New Green, Burnt Sienna and 1 No. 7 brush. Per dozen boxes . . . . . \$3.60

In the tray of this box there are two empty recesses, holding two large or four half pans, which can be utilized for additional colors.



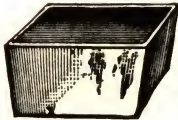
- No. 118. Contains eight half pans—Gamboge, Crimson, New Blue, New Green, Orange, Violet, Warm Gray and Cold Gray, and 1 No. 7 brush. Per dozen boxes . \$3.70



## School Moist Water Colors

### In Half Pans

For refilling Nos. 3, 4, 4½, 4½C, 4½E, 115 and 118.



Alizarin Crimson.	Ivory Black.	Orange.	Violet.
Burnt Sienna.	Lamp Black.	Prussian Blue.	Yellow Ochre.
Chinese White.	Light Red.	Sepia.	Warm Gray.
Crimson.	New Blue.	Vandyke Brown.	Cold Gray.
Charcoal Gray.	New Green.	Vermilion.	Gamboge.

Per dozen ..... \$0.45

## Academic Moist Water Colors

### In Collapsible Tubes



Antwerp Blue.	Chrome Yellow, No. 2.	Indian Red.	New Blue.	Sap Green.
Alizarin Crimson.	Chrome Orange.	Indian Yellow.	New Green.	Scarlet Lake.
Burnt Sienna.	Cobalt Blue.	Indigo.	Neutral Tint.	Sepia.
Burnt Umber.	Cold Gray.	Ivory Black.	Olive Green.	Ultramarine.
Cadmium Pale.	Crimson Lake.	Lamp Black.	Paynes Gray.	Vandyke Brown.
Cadmium Yellow.	Charcoal Gray.	Lemon Yellow.	Prussian Blue.	Venetian Red.
Carmine.	Emerald Green.	Light Red.	Purple.	Vermilion.
Chinese White.	Gamboge.	Madder Brown.	Raw Sienna.	Violet.
Chrome Green.	Hooker's Green.	Mauve.	Raw Umber.	Warm Gray.
Chrome Yellow, No. 1.		Naples Yellow.	Rose Madder.	Yellow Ochre.

Per dozen ..... \$1.35

## Atomizers

### Japanned Tin, Folding



For spraying Fixatif on crayon and charcoal drawings. Price, per dozen.....\$1.60

#### Fixatif—For Crayon or Charcoal

#### French Charcoal—In Boxes of 50 Sticks Each

2 oz. bottles, per dozen.....\$2.20	First Quality, 6 inches long, per box.....\$0.20
Pints, each ..... .80	Conté Ordinary, per box..... .25
Quarts, each ..... 1.50	Conté Venetian, per box..... .60

## "School" Water Cups

### Enameled Tin—White Inside, Black Outside



These cups are very light and of such shape that a large number can be packed up in nests, thus occupying a small space, which renders them valuable in schools where large numbers are used.  
By dozen ..... \$0.50



## "Extra" Camel Hair Water Color Brushes

Superior Quality

Polished Handles. Tin Ferrules

No. 1. Per doz. .... \$0.45

No. 2. Per doz. .... .53

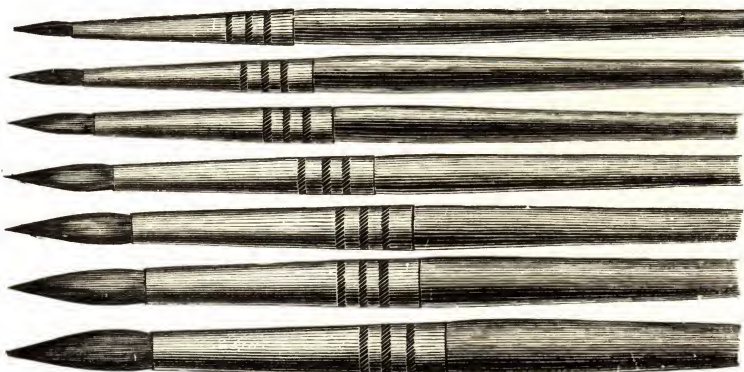
No. 3. Per doz. .... .63

No. 4. Per doz. .... .69

No. 5. Per doz. .... .76

No. 6. Per doz. .... .88

No. 7. Per doz. .... .91



## Japanese Water Color Brushes



In dozen lots.	Per dozen . . . . .	\$0.75
In gross lots.	Per dozen . . . . .	.60

## Wood Stains in Powder Form

For Manual Training Work

To make these stains ready for use, all that has to be done is to dissolve them in water.

They are made in imitation of the following woods:

Fumed Oak.	Brown Oak.	English Oak.	Walnut.	Rosewood.
Weathered Oak.	Green Oak.	Flemish Oak.	Mahogany.	Cherry.
Tavern Oak.	Light Oak.	Antwerp Oak.	Ebony.	

Put up in attractive tin packages, each containing two ounces.

The contents of a package, added to one gallon of water, will make a gallon of stain.

This applies to all shades, except Flemish Oak. This stain is produced by adding the contents of a package to one quart of water.

Directions:—The wood should be made smooth with sandpaper, always being careful to sandpaper with the grain.

Apply the stain to the wood with a sponge or soft brush, as evenly as possible. If the work is to be varnished after staining, do not apply the varnish until the stain is thoroughly dry and all moisture has left the wood.

Price, all stains, per package . . . . .	\$0.60
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## Waste-Paper Baskets

### Willow Stick



Wire (tin plated), \$0.50.

	Inches.	Inches.	
No. 0.	Diameter, 11	; height, 12	... \$0.56
No. 1.	Diameter, 13½	; height, 12½	... .68
No. 2.	Diameter, 13½	; height, 13½	... .79
No. 3.	Diameter, 15½	; height, 15	... .94
No. 4.	Diameter, 16½	; height, 15½	... 1.05
No. 5.	Diameter, 19½	; height, 18	... 1.31

### CLOSE WOVEN RATTAN

	Inches.	Inches.	
Small,	diameter, 14	; height, 14	... \$1.35
Medium,	diameter, 15	; height, 16	... 1.58
Large,	diameter, 15½	; height, 17	... 2.25



Willow Stick.

## The World's Only Dustless Floor Brush



The World's only Sanitary Dustless Floor Brush is the best brush on the market. It is guaranteed to sweep all kinds of wood or tile floors, oil cloth, linoleum, matting or carpets without raising the dust. It kills germs, improves floors, brightens carpets. It is a Twentieth Century Brush, abreast of the times, and up to modern ideas of sanitation.

The Mixed Bristle Brush is composed of Pure Russian Bristles, together with a specially treated fibre, and is strongly recommended for school use.

**Construction.**—In the back of the brush is a reservoir or oil chamber which carries a small supply of kerosene oil. When the brush is operated, this oil filters down through a row of specially arranged fibre. When it touches the dust, it moistens it, and causes the dust particles to adhere to one another and roll up in little balls or pellets, thereby preventing the dust from rising in the air. The kerosene also acts as an antiseptic, destroying bacteria and all living matter in the dust, and purifies the atmosphere.

### Russia Bristle Brush for Use on Hardwood and Tile Floors.

No. 1.	11 in. Block	.....\$ 5.25
No. 2.	12 in. Block	..... 5.65
No. 2X.	14 in. Block	..... 6.40
No. 3.	16 in. Block	..... 7.15
No. 3X.	18 in. Block	..... 7.90
No. 4.	20 in. Block	..... 8.65
No. 5.	24 in. Block	..... 9.40
No. 6.	28 in. Block	..... 10.90

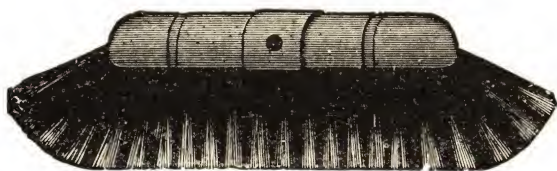
### Mixed Bristle Brush, Especially adapted for School Use.

No. 9.	11 in. Block	.....\$4.90
No. 10.	12 in. Block	..... 5.25
No. 11.	14 in. Block	..... 5.65
No. 12.	16 in. Block	..... 6.40
No. 13.	18 in. Block	..... 7.15
No. 14.	20 in. Block	..... 7.90
No. 15.	24 in. Block	..... 8.65

Full directions go with each brush.



## Floor Brushes



No. 3.	12-inch, Russian Bristles.....	Each	\$2.50
No. 6.	14-inch, Russian Bristles.....	Each	3.75
No. 8.	16-inch, Russian Bristles.....	Each	4.75
No. 10.	18-inch, Russian Bristles.....	Each	5.25
No. 12.	12-inch, Russian Bristles.....	Each	1.50
No. 14.	14-inch, Russian Bristles.....	Each	2.00
No. 16.	16-inch, Russian Bristles.....	Each	2.50

## Counter Dusters



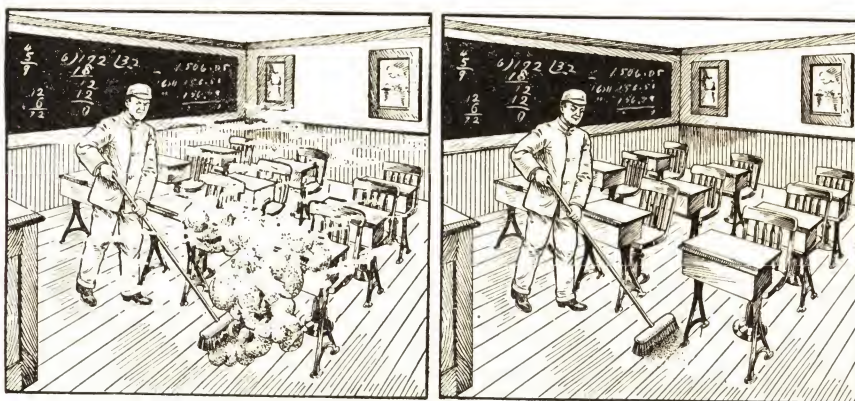
No. 1.	Extra Bristles .....	Each	\$0.35
No. 2.	Extra Bristles .....	Each	.50
No. 3.	Extra Bristles .....	Each	.60
No. 4.	Extra Bristles .....	Each	.70



## Turkey Feather Dusters

No. 10.	Feathers 10 in. long..	Each	\$0.40
No. 11.	Feathers 11 in. long..	Each	.45
No. 12.	Feathers 12 in. long..	Each	.50
No. 13.	Feathers 13 in. long..	Each	.60
No. 14.	Feathers 14 in. long..	Each	.65
No. 15.	Feathers 15 in. long..	Each	.70
No. 16.	Feathers 16 in. long..	Each	.80

## Perolin



The dust trampled into the school room is a veritable breeding farm for microbes and makes the floor a sure repository of disease germs. Many a child becomes ill with no apparent cause and in the majority of cases the trouble can be laid to the dusty floor of the school room.

The danger from dust may be averted by using Perolin while sweeping, as the janitor or caretaker can collect and burn the disease-breeding germs, and thus help prevent the contagious diseases which attack a half million school children yearly.

Perolin is a compound able to absorb large quantities of dust. When swept over the bare floor or carpet, the dust and germs are taken up and held fast by the Perolin, which, after being used several times, may be burned. In this way the school room is disinfected daily and made safe for the pupils.

School Boards and Health Boards should unite in requiring the use of Perolin in every school in the country.

**Directions—For Floors:** Throw a few cupfuls of PEROLIN in a strip at one end of the place which is to be swept and sweep progressively forward with a common broom in the usual way. The quantity of PEROLIN to be used is dependent on the size of the space to be swept. Better results can be obtained from a larger quantity of PEROLIN than a smaller one, and still no more will be used in its continual use, as PEROLIN can be used repeatedly until thoroughly saturated with dust.

**For Carpets:** The above directions also apply to the use of Perolin on carpets, but care should be taken not to sweep against the nap.

### Prices

25-lb. drums .....	Each	\$2.30	200-lb. drums .....	Each	\$12.00
50-lb. drums .....	Each	4.00	250-lb. drums .....	Each	15.00
100-lb. drums .....	Each	7.00	Special prices quoted on larger quantities.		

## American Cold Water Paste

This is the **Best Dry Paste** on the market, and the only one that can be **mixed with cold water**. It is especially adapted for school use on account of its convenience and cheapness. When used in kindergarten schools and departments, each pupil can have a small quantity mixed on a piece of paper, which can be thrown away when through with the work in hand.

To prepare for using, mix the quantity required in any wide topped glass vessel, saucer, cup, bottle or pan, by adding cold water to the flour until it becomes of the desired consistency, and it is then ready for immediate use. Stir while mixing, as in this way the formation of lumps is prevented. The mixing requires only a few minutes, and as it can be done as often as needed, you will always have fresh paste to work with, thus avoiding the annoyance and inconvenience of having to use dry, sour or moldy paste.

It is economical as well as convenient, one pound of the flour mixed with two quarts or more of water making one gallon of strong, smooth, heavy paste, which would ordinarily cost about \$1.00, not including the freight or cartage. It is very adhesive, and can be used for all purposes for which mucilage or library paste are ordinarily used.

### GREAT SAVING IN FREIGHT

What is the use of paying freight on water, which can be had free, or on a glass or stone jar, which you can buy just as cheap in your own town? A glass vessel is very liable to be broken unless packed very securely, and in this case the freight often amounts to more than the cost of the goods. The freight on the powder is about one-tenth what would have to be paid on the mixed kind.

### PRICES:

1 pint packages.....	\$0.10	1 gallon packages.....	\$0.50
1 quart packages.....	.15	1 pound packages.....	.25
5 pound packages.....	\$1.25		

Postage prepaid on pint and quart packages; other sizes F. O. B. Chicago.

## Barbour Tablet Ink



Ink in a dry state, which when dissolved in water gives an excellent free flowing Black Ink for school or house use. We can furnish abundant testimony as to its excellence. A box of tablets will make one gallon of ink.

Price, per gallon.....\$0.50



## American Writing Fluid Powder

There are a number of ordinary ink powders and tablets on the market, but this is the only **Writing Fluid Powder**. For this reason, it is better than anything else of the kind in use at the present time. Writes a bright blue; turns a permanent black. It will not fade like the ordinary inks; is adapted to any climate and will not mold, sour or grow thick. It is a dry chemical mixture, ready for immediate use by simply adding water, is free from all sediment and will not corrode the pen. It is an ideal ink for Schools, Business Colleges, etc., and is low enough in price to be within the reach of all who desire the best grade of ink. All ordinary inks fade or grow dim in time, but this is not the case with **Writing Fluids**, as they are lasting.

This Powder is not an experiment, as the fluid made from it has been sold for years, but it has never been put on the market in powdered form.

### NO FREIGHT TO PAY.

Why pay freight on water which can be had free in any locality, or on a keg or bottle, which is liable to break or leak, or the contents may freeze? In almost all cases the freight or express charges on inks amount to as much as, or more than the price of the goods.

We will ship this powder prepaid to any part of the United States on receipt of the following prices:

1 pint packages.....	\$0.15	1 gallon packages.....	\$0.75
1 quart packages.....	.25	2 gallon packages.....	1.25
5 gallon packages.....			\$3.00

### AMERICAN COLORED INK POWDERS.

We carry a full line of powders for the various colored inks, which are equal to any on the market. The kinds most commonly used are Red, Violet, Blue and Green, and we will ship them prepaid, to any point in the United States, at the following prices:

	Half pint.	Pint.	Quart.	Gallon.
Red .....	\$0.15	\$0.30	\$0.50	\$1.50
Blue .....	.10	.15	.25	.75
Violet .....	.10	.15	.25	.75
Green .....	.10	.15	.25	.75

### AMERICAN BLACK INK POWDER.

We also carry a good grade of **Black Ink Powder**, the kind generally used in the public schools, which we will ship prepaid on receipt of the following prices:

1 quart packages.....	\$0.10	1 gallon packages.....	\$0.30
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This powder makes a very good black ink, but we recommend the use of the **Writing Fluid Powder**, as we guarantee it to give satisfaction in every respect.

## Writing Fluids, Mucilage and Paste

### KIRK'S BLUE BLACK WRITING FLUID

Writes Dark Blue, turns Jet Black.



Quarts, 1 dozen in box, per dozen.....	\$6.00
Pints, 1 dozen in box, per dozen.....	4.00
½ Pints, 1 dozen in box, per dozen.....	3.30
2 oz. cylinders, 3 dozen in box, per gross.....	6.00

### KIRK'S SCHOOL (Black)

Quarts, 1 dozen in box, per dozen.....	\$4.00
Pints, 1 dozen in box, per dozen.....	3.30
½ Pints, 1 dozen in box, per dozen.....	2.50
2 oz. cones, 3 dozen in box, per gross.....	4.80



### KIRK'S COLORED

Violet, 2 oz. cylinders, 3 dozen in box, per gross.....	\$5.50
Blue, 2 oz. cylinders, 3 dozen in box, per gross.....	5.50
Green, 2 oz. cylinders, 3 dozen in box, per gross.....	5.50
Red, 2 oz. cylinders, 3 dozen in box, per gross.....	6.00



### KIRK'S WHITE LIBRARY PASTE

Quarts, 1 dozen in box, per dozen.....	\$6.00
Pints, 1 dozen in box, per dozen.....	4.00
½ Pints, 1 dozen in box, per dozen.....	2.00
2 oz. cylinders, 3 dozen in box, with brushes, per gross.....	6.50



### KIRK'S MUCILAGE

Quarts, 1 dozen in box, per dozen.....	\$6.00
Pints, 1 dozen in box, per dozen.....	4.00
2 oz. cones, 3 dozen in box, with brushes, per gross...	6.00



### SANFORD'S PREMIUM WRITING FLUID

Quart bottles, with patent spout, each.....	\$0.75
Pint bottles, with patent spout, each.....	.45
2 ounce cones, wood-top cork, per dozen.....	.60



### SANFORD'S COMBINED WRITING AND COPYING FLUID

Quart bottles, with patent spout, each.....	\$1.00
Pint bottles, with patent spout, each.....	.60
2 ounce cones, wood-top cork, per dozen.....	.70

### SANFORD'S CARDINAL RED INK

Quart bottles, with patent spout, each.....	\$1.60
Pint bottles, with patent spout, each.....	.95
2 ounce cones, hard rubber tops, per dozen.....	1.00

### SANFORD'S LIBRARY PASTE

Quart bottles, with cup cover, each.....	\$0.85
4 ounce bottles, with caps and brushes, per dozen.	1.25







## Victor School Ink

**Black—in Kegs or Jugs. The Best and the Cheapest.**

The kegs are made of oak, well hooped, and will last for years. They are supplied with a good faucet. The ink is made with great care and skill, and has no superior.

### Prices

1-gallon jug .....	\$ 0.73
2-gallon jug .....	1.50
3-gallon keg .....	3.00
5-gallon keg .....	4.50
10-gallon keg .....	7.50
15-gallon keg .....	10.00
20-gallon keg .....	13.00

## Kirk's Blue Black Writing Fluid

**In Kegs or Jugs—Writes Blue, Turns Jet Black.**

We recommend this fluid to school boards and others who are looking for something better than the ordinary grade of school ink.

### Prices

1-gallon jug .....	\$ 1.50	10-gallon keg .....	\$12.30
3-gallon keg .....	4.35	10-gallon keg .....	22.50
5-gallon keg .....	6.50		

## Kirk's Black Ink Powder

**For Making Black School Ink**

This powder will be found very satisfactory, and as there is no freight to pay, is considerably cheaper than the inks sold in bottles, jugs or kegs. Full directions accompany each package, and are so simple a child can easily make the ink.

We will ship this powder prepaid to any point in the United States on receipt of the following prices:

1-gallon packages .....	\$0.30	10-gallon packages .....	\$1.80
5-gallon packages .....	1.00	20-gallon packages .....	3.20

## Ink- Wells

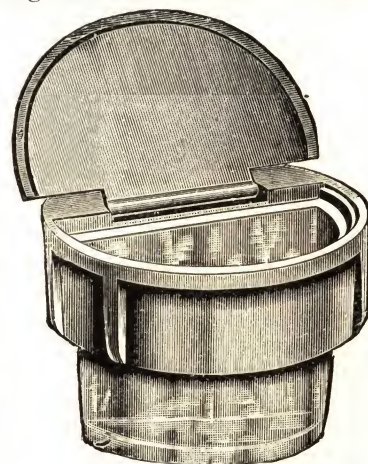
### THE CHICAGO

The chief requirements of an ink well are, that the top should be non-corrosive and that the pupils should not be able to pry it off; also that the well should be as air-tight as possible.

"The Chicago" has been constructed with these ends in view, and is the best ink well on the market at the present time.

Heavily Nickel-Plated.

Complete, per doz. ....	\$2.25
Glasses only, per doz. .	.60



### Style 4.

Flush Top. Nickel-Plated.

Complete, per doz. ....	\$2.00
Glasses only, per doz. .	.75

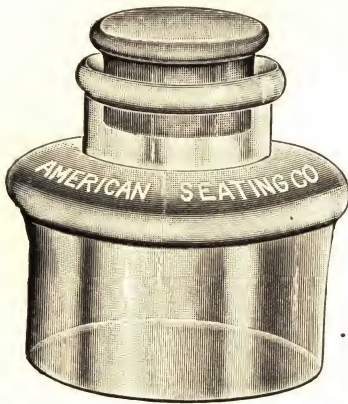
**"The Chicago"—Adopted by the Board of Education, Chicago, Ill.**

We carry in stock the largest line of ink wells, both castings and glasses, in the country.

If you wish to replace some broken glasses mail us a sample and we will match it.



## Ink Wells



**The Common Sense.**

This well has the same size hole in the desk as the "Chicago." It fits tightly but can be removed easily.

It is fitted with a rubber stopper.

Complete with rubber stoppers, per dozen .....\$0.75  
Extra rubber stoppers, per dozen ..... .25



**Style 1.**

The casting screws to the top of the desk.

Complete ink wells, per dozen.....\$1.85  
Glasses only, per dozen..... .60

## The Boston Ink Well

THE LATEST IMPROVEMENT IN INK WELLS



**No. 58.**

CLEAN  
NOISELESS  
CONVENIENT  
AIR-TIGHT  
INEXPENSIVE  
FITS FLUSH WITH  
TOP OF DESK



**No. 59.**

The Boston Ink Wells are made after two patterns, as illustrated in Nos. 58 and 59.

The tops are made of a hard, unyielding mineral composition, impervious to moisture and to the acids found in ink. For this reason they will not corrode and become unsightly, as will metal tops. The slide that covers hole in No. 59, when well is not in use, will never stick and refuse to open or close.

The well is practically air-tight, as only a small part (less than one-fifth of a square inch) of the ink's surface is exposed to the air. There is no appreciable amount of evaporation from this surface, so the ink will not thicken, but will flow evenly and freely from the pen until the well is empty. If the No. 59 well is used, still less evaporation takes place, as the slide covers the exposed surface when well is not in use.

With no metal parts to rattle, the wells are absolutely noiseless. This is an essential feature where it is desired to maintain good government. There are no loose parts, such as corks or glasses, to be lost or thrown about the room, hence the wells are always in condition for use.

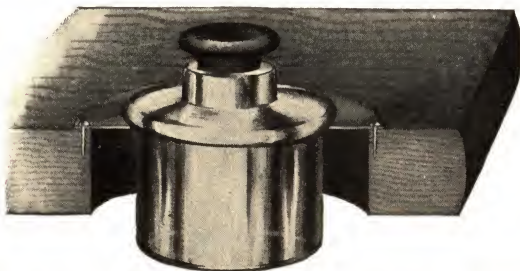
### PRICES.

No. 58, per dozen.....\$3.00    No. 59, per dozen.....\$3.60  
Glasses only, per dozen .....\$0.75



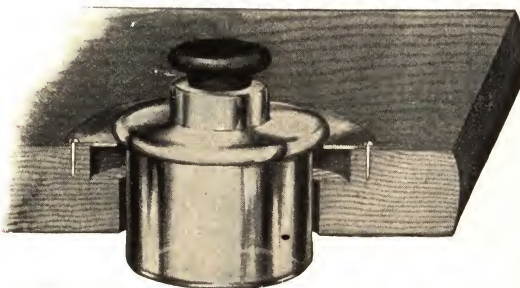
## The Common Sense Ink Well AND COLUMBIA ADAPTER

One of the most annoying small things a school board has to deal with (and it is not a trifling matter after all) is the one of ink wells. They are constantly out of order and needing attention. The covers are broken off, or will not close; they are rusty and corroded, or glasses lost; something is sure to be wrong with most of them. In the course of time, at many schools, there has accumulated a varied assortment of ink wells, good, bad and indifferent, and it is a very troublesome matter to keep them in condition for use, match them up, etc.

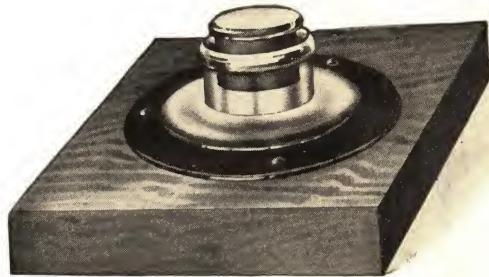


The Common Sense Ink Well and Adapter, Used in a Desk Which Previously Contained a Well of Greater Diameter

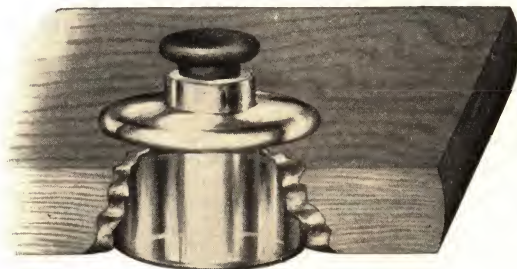
If you have this difficulty to contend with, let us call your attention to our Common Sense Ink Well, with the Columbia Ink Well Adapter. The latter is a device by which our Common Sense Ink Well can be used in old desks without the necessity of reboring or fitting. It is easily attached at a trifling expense. No matter what kind of ink wells were originally in your desks you can use the Columbia Ink Well Adapter and will find it just the thing for your purpose. The illustrations shown on this page will give a clear idea of the Well and the Adapter.



The Common Sense Ink Well and Adapter, Used to Replace an Old Well Which Required a Double Boring



The No. 56 Common Sense Ink Well is just what its name implies, i. e., a practical, common sense ink well, and for real value and utility far superior to the more elaborate and complicated affairs now on the market. It is simplicity itself, inexpensive, easily filled and cleaned, and in case of breakage readily replaced. If desired this well can be furnished with new desks, as shown in cut below.



The Common Sense Ink Well, as Furnished With New Desks

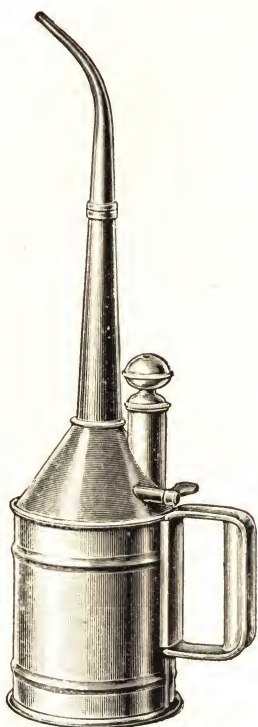
### PRICES

Ink Well and Adapter, complete, per doz. ....	\$1.25
Ink Wells and Corks, only, per doz. ....	.75
Corks, only, per doz. ....	.25

We are headquarters for all kinds of ink wells and if you wish to match those you are now using, let us know the number needed and send us a sample well with your name and address attached, on receipt of which we shall be glad to fill your order at our lowest price, or we will send samples and quote prices upon request.



## The National Ink-Well Filler



With the National Ink-Well Filler ink-wells can be filled very quickly and without spilling the ink either on the desk or inside of the ink-well casting. This will prevent the corrosion of the casting, and the saving in this direction as well as the saving in time and ink will pay for the Filler in one month's time.

The National Ink-well Filler is constructed of the heaviest and best tin plate; the fittings are of brass throughout, and will not corrode. Around the bottom is a solid steel ring which prevents the Filler from being jammed or dented, no matter how hard a knock it may receive.

The curved spout is attached to the filler by means of a screw joint, so that in case of being bent or broken it can be replaced without the necessity of purchasing an entire new Filler. By a simple thumb pressure, you can regulate the flow of ink, and gauge it to a drop. The flow can be stopped instantly, and there is no possibility of overflowing the ink-well. The air-vent is so constructed that the ink cannot flow out if the Filler is upset.

Each Filler is thoroughly tested before leaving the factory.

Price, each .....\$ 1.50  
Price, per dozen ..... 15.00

## The United States Ink-Well Filler



This article is manufactured specially for this purpose. The body is glass, protected by tin. It is air-tight.

1 gallon, empty, price. \$0.40

## Patent Ink Vent



This is the most perfect and durable device ever invented for filling ink stands or wells.

Not a drop is wasted or finger stained.

Price .....\$0.25

## Sanford Ink-Well Filler

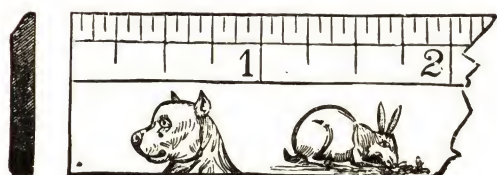


This most convenient and economical device for filling ink wells or stands consists of a quart flint glass bottle, to which is attached the Ink Vent, as seen in the cut.

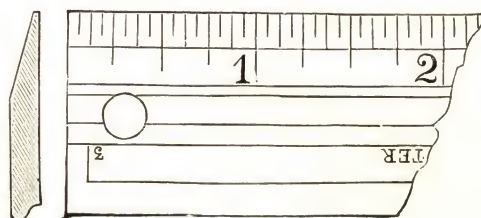
Price .....\$0.40



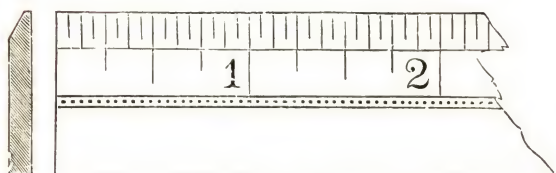
## School Rulers



No. 11.



No. 30.



No. 12.

No. 11.	Per dozen .....	\$0.09
No. 12.	Per dozen .....	.12
No. 30.	Per dozen .....	.28

## Yardsticks

No. 8.	Soft wood.....	Per dozen	\$0.50
No. 16.	Hardwood, maple .....	Per dozen	1.00
No. 16B.	Hardwood, maple, brass tips.....	Per dozen	1.60

## Pointers for Map or Blackboard



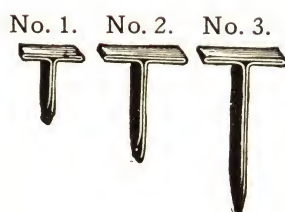
No. 1.	A Steel Pointer, with a rubber tip; practically indestructible; 36-inch..	Each	\$0.15
No. 2.	Tarr's, no scale, rubber tip; 36-inch.....	Each	0.18

Prevents  
NoiseSaves  
Expense

Section of Pointer showing the size of small end, with rubber tip attached.

No. 3.	Plain, without rubber tip; 36-inch.....	Each	\$0.15
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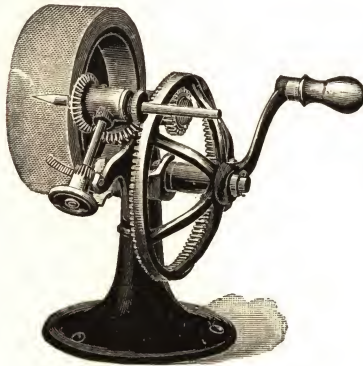
## Commercial Paper Fasteners



Round Head				Flat Head			
No. 1.	1/4-inch.	Per 100	\$0.25	No. 1.	1/4-inch.	Per 100	\$0.20
No. 2.	1/2-inch.	Per 100	.30	No. 2.	1/2-inch.	Per 100	.25
No. 3.	3/4-inch.	Per 100	.40	No. 3.	3/4-inch.	Per 100	.30
No. 4.	1 -inch.	Per 100	.50	No. 4.	1 -inch.	Per 100	.35
No. 5.	1 1/4-inch.	Per 100	1.40	No. 5.	1 1/4-inch.	Per 100	1.00
No. 6.	1 1/2-inch.	Per 100	1.60	No. 6.	1 1/2-inch.	Per 100	1.20

## The Improved "Combination" Blackboard Eraser Cleaner and Pencil Sharpener

Sharpens Lead or Slate Pencils (Long Bevel or Short Bevel). Cleans Any Blackboard Eraser Quickly, and Does it Well  
Patented Jan. 26, 1897.



Arranged as a Pencil Sharpener



Arranged as an Eraser Cleaner

The "Combination" is either an Eraser Cleaner or Pencil Sharpener, or both. If you have a pencil sharpener, order the eraser cleaner, or if you do not desire the eraser cleaner order the pencil sharpener. The pencil sharpener has a spool of sandpaper, having a 50-foot ribbon of the best flint paper, two inches wide, wound on it and firmly glued at the edges. When one circumference of sandpaper is worn out it is torn off and a new surface is ready. Spools of sandpaper can be sent by mail. With care the expense of sandpaper should not exceed 15 cents a year per room. Any bevel can be obtained on any pencil. The drawing teacher will find this machine a boon. Leads blunted, needle pointed, lathed bare or shouldered, as desired.

Changing the machine from an eraser cleaner to a pencil sharpener or vice versa is a matter of adjusting two thumb screws and takes about ten seconds.

Eraser Cleaner, only.....	\$3.50
Pencil Sharpener, only.....	3.50
Eraser Cleaner and Pencil Sharpener.....	5.00



### THE "RIGHT" PENCIL SHARPENER

Guaranteed for One Year.

This machine makes sharp, medium or blunt points, and sharpens all grades and all sizes of pencils and crayons.

Being fitted with knives it whittles the pencil instead of grinding it, and does not waste the lead or break the point.

It is simple in construction, no parts to wear out, no springs that can break, and the knives can be resharpened.

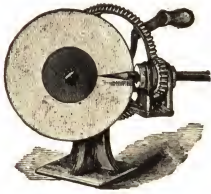
It feeds the pencil to the cutter automatically, all that is necessary is to insert the pencil and turn the crank, and the machine stops cutting when the pencil is sharpened.

Price .....\$3.50



## Pencil Sharpeners

### THE GEM



The Gem sharpens equally well both lead and slate pencils without breaking the points.

The chuck for holding the pencil is automatic, adjusting itself to the pencils of any ordinary size. A long or short bevel can be obtained without breaking the points.

Price, with one dozen sandpaper discs.....\$4.00

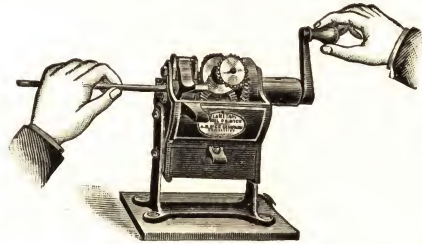
Extra discs can be procured at a cost of 15 cents per package of one dozen.

### THE PLANETARY

A point is made with the Planetary on all kinds, grades and sizes of lead pencils, slate pencils, wax crayons, etc.

The only system using no sandpaper, files or knives. Breaking of points absolutely prevented.

Price .....\$4.50



### CLIMAX PENCIL SHARPENER

Size of machine, 5 inches high, 3 inches wide, 3½ inches deep.



SHOWING INTERNAL MECHANISM.

This machine will sharpen the softest leads as well as the hardest and does its work quickly, without noise or dust. Cuts fast or slow by simple adjustment. Cutters are made of high-grade tool steel and can be sharpened. Will pay for itself in saving of time, pencils and patience.

Price .....\$7.50



No. 1410.....\$0.15

### The Boston Pencil Sharpener

Mechanically Perfect.

The Boston Pencil Sharpener is guaranteed to properly sharpen pencils for at least one year.

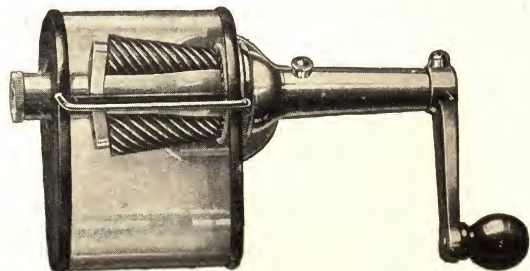
The cutters are made from special imported tool steel, hardened, tempered and accurately ground, each cutter having spirally disposed cutting edges. Fitted with twin cutters with a milling edge and having 200 per cent more cutting surface than any other make. Unnecessary to sharpen cutters or buy new ones.

Will not break the lead, the pencil fitting so snugly in the guide that no pressure can bear upon the lead to break it off.

Handsome design, nickel finish, with removable transparent chip receptacle.

Can be adjusted so that it can be attached to either a horizontal or vertical surface.

Price, complete.....\$6.00



## Drawing Pencils



- No. 500. Siberian, hexagon, natural polish, gold stamp, 15 grades, 6B, 5B, 4B, 3B, 2B, B, BH, F, H, 2H, 3H, 4H, 5H, 6H, 7H.....Per gross \$13.50



- No. 560. English, round, natural polish, silver stamp, 5 grades, B, HB, H, 3H, 6H...Per gross \$5.50  
No. 6319. Black Knight, round yellow polish, extra large lead.....Per gross 6.75



- No. 481. Mongol, hexagon, yellow polish, gold stamp, 8 grades: BB, B, HB, H, HH, 3H, 4H, 6H; put up 1 dozen in a box.....Per gross, \$7.50



- No. 365. Fine, round, natural polish, silver stamp, 5 grades: B, HB, H, HH, 3H....Per gross \$3.75



- No. 370. Star, hexagon, rosewood polish, 5 grades, 1, 2, 3, 4, 5.....Per gross \$4.25



- No. 310. School, round, natural polish, silver stamp, 3 grades, B, HB, H.....Per gross \$3.25  
No. 210. Round, natural polish, HB.....Per gross \$1.90



- No. 395. Commerce, nickel tip, rubber inserted, round rosewood polish, 2 grades, Nos. 2 and 3.....Per gross \$4.50  
No. 375. Commerce, hexagon, natural polish, otherwise same as 395.....Per gross 5.00



- No. 3200. Artistic, satin finish, 5 grades, B, HB, H, HH, HHH. Specially prepared for schools and colleges. Both practice and drawing.....Per gross \$3.60



- No. 300. Dot, green polish, nickel tipped, rubber inserted, Nos. 2 and 3.....Per gross \$5.00



- No. 2842. Imperial, maroon polish, nickel tipped, rubber inserted, Nos. 2 and 3.....Per gross \$3.70  
No. 2382. Triumph, natural polish hexagon, nickel tipped, rubber inserted, Nos. 2 and 3. Per gross 4.40



- No. 1142. Traffic, red polish, short nickel tipped, rubber inserted, No. 2.....Per gross \$2.50  
No. 1148. Traffic, red polish, short nickel tipped, rubber inserted, tablet size.....Per gross 2.50



- No. 1181. Traffic, black or red polish, hexagon, nickel tipped, rubber inserted, No. 2..Per gross \$2.50



- No. 1140. Railroad, round, nickel tipped, rubber inserted.....Per gross \$2.20



## Pencils



- No. 245. Flashlight, round, bright fancy colored woods, six dozen in box.....Per gross \$2.60



- No. 6370. Elementary, round, natural polish; extra large caliber, extra thick lead; made expressly for kindergartens and primary grades.....Per gross \$7.00



- No. 1550. Pocket Novelty, maroon finish, gilt tip, red rubber inserted.....Per gross \$7.20  
No. 3001. Leads for refilling No. 1550.....Per gross boxes 6.80



- No. 0. Zero, cedar, nickel tipped, rubber inserted, No. 2.....Per gross \$2.40



- No. 547. Dash, rubber inserted in wood, cedar polish.....Per gross \$1.80  
No. 1000. Round, plain cedar.....Per gross 1.20

### SLATE PENCILS IN WOOD

- No. 700. Cedar polish, round.....Per gross \$0.80

### GERMAN SLATE PENCILS

	Plain German Pointed	Union Pointed	Gilt Pointed
5½ inches long.....Price per 1,000.....	\$1.65	\$1.75	\$1.85
6¼ inches long.....Price per 1,000.....	1.75	2.00	2.25
7 inches long.....Price per 1,000.....	2.00	2.50	2.75

### COLORED PENCILS



- No. 662. Round, polished, 7 in a box, full length; brown, purple, blue, red, yellow, green, olive.....Per dozen boxes \$3.60  
No. 663. Round, 12 in box; black, purple, blue, dark green, light green, light blue, yellow, orange, pink, red, brown, crimson.....Per dozen boxes 7.20

## Penholders



- No. 471. Straight, fluted, red.....Per gross \$0.60



- No. 57. Swell handle, colored.....Per gross \$1.20

## Penholders



- No. 2140. Blued steel tips, straight, cedar, small ..... Per gross \$1.70  
 No. 2141. Blued steel tips, spiral, cedar, small ..... Per gross 1.70  
 No. 2440. Blued steel tips, straight, cedar, medium ..... Per gross 1.90



- No. 2190. Blued steel tips, swell, cedar, small ..... Per gross \$2.10  
 No. 2491. Blued steel tips, swell, cedar, medium ..... Per gross 2.55  
 No. 3074. Nickel steel tips, swell, black, japanned handle, small ..... Per gross 2.40  
 No. 3175. Nickel steel tips, swell, black, japanned handle, medium ..... Per gross 2.80

## ANTI-NERVOUS



- No. 1331. Cedar, taper, all wood ..... Per gross \$2.80  
 No. 1333. Yellow polish, taper, all wood ..... Per gross 4.80  
 No. 1334. Fancy mottled, taper, gilt end piece ..... Per gross 4.00



- No. 88. Cedar, taper handle, soft, fluted, rubber tip, medium ..... Per gross \$6.00



- No. 267. Natural polish, taper handle, hard rubber tip, small ..... Per gross \$7.20  
 No. 268. Natural polish, taper handle, hard rubber tip, medium ..... Per gross 8.00



- No. 78. Korka, assorted polish, cork tip, taper handle ..... Per gross \$7.20

## Pocket Pencil Compasses



- No. 1750. With rubber tipped pencil, full length ..... Each \$0.10

## School Pens

### Spencerian



- No. 1. Double Elastic ..... Per gross \$1.00  
 No. 2. Counting House ..... Per gross 1.00  
 No. 5. School ..... Per gross 1.00



## School Pens

### Esterbrook's



- No. 14. Bank, bronze. An excellent business pen, next to the Falcon, No. 048, in popularity.....Per gross \$0.75



- No. 048. Falcon, bronze. The most popular pen in use for general business purposes .....Per gross 0.75



- No. 128. Extra Fine Elastic, gray. The penman's favorite. In general use in commercial colleges. Per gross 0.75



- No. 135. Double Elastic, gray, medium fine elastic action and very popular .....Per gross 0.75



- No. 182. Ladies' Falcon, bronze. Fine and easy action.....Per gross 0.75



- No. 239. Chancellor, gray. A medium stub pen; much liked for back hand writing .....Per gross 0.75



- No. 312. Judge's Quill, gray. A large engrossing pen; fine point.....Per gross 0.75



- No. 333. Extra Fine, bronze. A very popular pen for public and private schools of higher grade.....Per gross 0.75



- No. 442. Jackson Stub, gray. A very popular stub pen; Falcon shape.....Per gross 0.75



- No. 444. School, bronze. Medium fine. Largely used in the public schools .....Per gross \$0.65



- No. 453. Business and College Pen, gray. A school pen with fine firm points. Per gross 0.75



- No. 556. Advanced School, gray. Fine points .....Per gross 0.65



- No. 570. Vertical Writer, gray. Medium point .....Per gross 0.65



- No. 702. Modified Slant, gray. For new style of writing between the ordinary slant and vertical. Fine point .....Per gross 0.65



- No. 761. Natural Slant, gray. A school pen with fine, firm points..Per gross 0.65



- No. 773. Natural Slant, gray. Small elastic, with a medium point. Per gross 0.65



- No. 782. Natural Slant, gray. Medium point .....Per gross 0.65



- No. 815. Interstate, gray. Medium fine point; pleasant action..Per gross 0.75

## School Pens

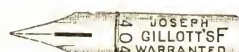


No. 2. American Vertical, gray. A very popular pen with writers who use the vertical system ..... Per gross \$0.60

### Gillott's



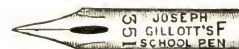
No. 303. Extra fine ..... Per gross \$1.13



No. 404. Medium fine ..... Per gross \$0.61



No. 604EF. Double Elastic. Per gross \$0.75



No. 351. School ..... Per gross \$0.72



No. 1046. Vertigraph ..... Per gross \$0.70

### E. Faber Steel Pens



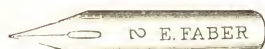
No. 0. Junior.



No. 1. College.



No. 4. Small Stub.



No. 2. Vertical.



No. 5. Stub.



No. 6. Falcon Stub.



No. 8. Bank.



No. 9. Star.



No. 7. Falcon.

Any number, one gross in a box ..... Per gross \$0.80



All numbers, one dozen in nickel-plated metal box ..... Per box \$0.10

### United States



No. 03. College ..... Per gross \$0.50



No. 016. School ..... Per gross \$0.50



No. 044. Bead ..... Per gross \$0.50



No. 080. Ladies' Falcon .... Per gross \$0.50



No. 040. Stub ..... Per gross \$0.50



No. 084. Falcon ..... Per gross \$0.50



## Fountain Pens

**Heavy 14k. Solid Gold Pens. Highly Finished Rubber Holders. Every Pen Guaranteed to Give Satisfaction.**

The nibs in our Fountain Pens are hand-tempered and are guaranteed for one year. These pens will actually work when you want them to, and that is what everybody wants.



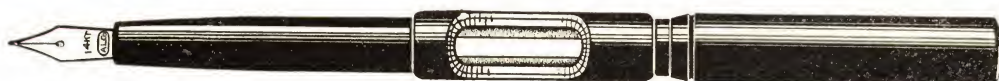
- No. 10. Black polished rubber holder. 14k. Pen. Fine, medium, broad or stub.  
..... Each \$1.00



- No. 20. Black or mottled rubber holder, either plain or chased. 14k. Pen. Fine, medium, broad or stub..... Each 1.10



- No. 30. Black or mottled rubber holder, either plain or chased. 14k. Pen. Fine, medium, broad or stub..... Each 1.35



- No. 21. Self Filler. Black polished rubber holder. Fills in an instant without removing cap. 14k. Pen. Fine, medium, broad or stub..... Each 1.50



- No. 22. Gold Mounted. Black chased rubber holder with chased gold bands. 14k. Pen. Fine, medium, broad or stub..... Each 1.50



- No. 23. Pearl Mounted. Holder mounted with pearl and chased gold bands. 14k. Pen. Fine, medium, broad or stub..... Each 3.00



- No. 24. Gold Mounted. Holder fitted with gold filled filigree mounts. 14k. Pen. Fine, medium, broad or stub..... Each 4.00

## Rubber Erasers



No. 110.



Cabinet.



No. 111.



No. 112.



No. 1080.

No. 110.	Union Ink and Pencil Eraser, per dozen .....	\$0.60
Cabinet,	120, 80, 60 and 40 pieces to the lb., per lb. ....	1.40
No. 111.	Emerald Pencil Rubber (green), packed 1 dozen in a box, per dozen.....	.54
No. 112.	Ruby Pencil Rubber (red), packed 1 dozen in a box, per dozen.....	.54
No. 1080.	Circular Eraser is 1½ in. in diameter, per dozen.....	.60



No. 1222.

No. 1222. Flat, small, ¼ gross in box, per box..... 1.80

No. 1224. Flat, large, 1 dozen in box, per box..... 1.00

This rubber will be found most serviceable for erasing pencil marks and cleaning drawings. It does its work very rapidly and will not injure the surface of the paper. It can be kneaded into any desired shape.

## Rubber Bands

### THREAD



No. 12.  
1-16 in. wide.



No. 14.  
1-16 in. wide.

	Per gross.		Per gross.
No. 8.	7/8 in. long.....\$0.12	No. 14.	2 in. long.....\$0.22
No. 9.	1 1/8 in. long..... .14	No. 15.	2 1/4 in. long..... .24
No. 10.	1 1/4 in. long..... .15	No. 16.	2 1/2 in. long..... .27
No. 11.	1 1/2 in. long..... .17	No. 17.	2 3/4 in. long..... .30
No. 12.	1 5/8 in. long..... .19	No. 18.	3 in. long..... .34
No. 13.	1 3/4 in. long..... .20	No. 19.	3 1/2 in. long..... .37

### HEAVY



No. 27.  
1/8 in. wide.



No. 70.  
3/8 in. wide.

	Per gross.		Per gross.
No. 27.	1 1/4 in. long.....\$0.40	No. 71.	2 in. long.....\$1.40
No. 29.	1 1/2 in. long..... .52	No. 72.	2 1/2 in. long..... 1.60
No. 30.	2 in. long..... .56	No. 73.	3 in. long..... 1.80
No. 31.	2 1/2 in. long..... .64	No. 74.	3 1/2 in. long..... 2.00



No. 400.	Assortment, contains No. 8, 11, 30, 32, 50, 61 and 72, per dozen boxes .....	\$3.60
No. 500.	Assortment, contains No. 8, 11, 31, 50, per dozen boxes...	1.45



## "Red Line Series"

### Of School and Township Records

Blank Forms and Stationery

In Strictly Legal Form, to Comply with the Latest Laws of the Various States

#### SCHOOL REGISTERS

List No.	Price.
1. <b>Teacher's Daily Register No. 1</b> —Quarto medium manilla covers, 28 pp., containing record of attendance, monthly summaries, programs, list of text books, and visitors' register.....	\$0.50
2. <b>Teacher's Daily Register No. 2</b> —Quarto medium, stiff boards, 64 pp., containing same forms as No. 1.....	1.00
3. <b>Teacher's Daily Register No. 3</b> —Quarto medium, stiff boards, 88 pp., containing all the forms of No. 2, and in addition, a list of parents or guardians and teacher's summary for the term.....	1.25
4. <b>Teacher's Daily Register No. 4</b> —Quarto medium, cloth, gilt stamp, 104 pp., containing all forms of No. 3 and pages for general memoranda.....	1.75
5. <b>Teacher's Daily Register No. 5</b> —Demy, 10½x16, record of attendance, 42 names per page, cloth, gilt, 52 pp.....	2.00
6. <b>Teacher's Daily Register No. 6</b> —Same contents as No. 5, stiff boards, 52 pp.:..	1.50
207. <b>Model Graded School Register</b> —Requiring but one entry of pupil's name for school year of ten months. Gives record of attendance, tardiness and deportment of 120 pupils, with names and residence of parents or guardians....	1.00
213. <b>Complete Graded School Record</b> —By C. P. Rogers. Arranged for half-year terms of 5 months. Half Demy, cloth sides, gilt stamp.....	1.00
14. <b>Practical Register and Grade Book</b> —By Calvin Moon, County Superintendent of St. Joseph Co., Indiana, containing Daily Register, Examination Record and Classification, combined in concise form. Gives record for 4 to 7 years. Cap size, stiff boards.....	1.00
211. <b>Model School Register and Grade Book</b> —Complete with all records and reports required for two years.....	1.00
9. <b>Teacher's Daily Register</b> —Special for Illinois (see list of Illinois forms)....	1.00

List No.	Price.
819. <b>Teacher's Daily Register</b> —Special for Wisconsin (see list of Wisconsin forms) .....	\$1.00
822. <b>Teacher's Daily Register</b> —Special for Wisconsin (see list of Wisconsin forms) .....	1.00

#### CLASS RECORDS

15. <b>Class Records</b> —Desk size. Quarto Demy, bound in stiff boards; contains twenty folio pages, and will record on each page the recitations of twenty-five pupils for a term of 16 weeks.....	\$0.75
17. <b>Class Records</b> —Pocket edition. Manilla covers, twenty-four folio pages, one month on each page.....	.25
18. <b>Pocket Class Record</b> —(New form) "Red Line Series." Small enough to be carried in the pocket, so arranged as to give a full record for the term opposite the name of each pupil, and having sufficient space to avoid confusion or liability to mistake in marking. Contains record of one class for 12 terms, or of 12 classes for one term, etc., with pages for memoranda and general record. Bound in flexible cloth, gilt stamp....	.50
19. <b>Pocket Class Record No. 19</b> —Same as No. 18, bound in manilla covers.....	.30
18L. <b>Pocket Class Record</b> —Large size. Same form and style as No. 18, but with 33 names on a page. Providing record for 12 terms.....	.75
19L. <b>Pocket Class Record</b> —Same as No. 18L, but manilla covers.....	.50

#### REPORT CARDS, ETC.

31. <b>Monthly Report to Parents of Scholarship and Deportment</b> for four months, per 100 .....	\$0.50
33. <b>Monthly Report Cards</b> —For a single month. Per 100.....	.50
34. <b>Weekly Report to Parents of Scholarship and Deportment</b> —Four weeks. Per 100 .....	.50
41. <b>Monthly Report Cards</b> —For ten months. Per 100.....	.50

We also carry a full line of Record Books, Order Books, Blanks, etc., for use of school officers. Write for special booklet containing full description and prices.

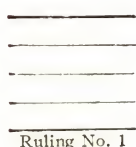


All papers, including Practice, Composition and Drawing, are put up in packages of 500 sheets. Any papers can be padded at a slight extra cost. Samples of any paper sent on request.

Price per Pkg.  
500 sheets.

No. 4	Ruling No. 52, Manila, 7x8½ inches	\$0.32
No. 5	Ruling No. 53, Manila, 7x8½ inches	.32
No. 6	Ruling No. 8, Manila, 7x8½ inches	.32
No. 8	Ruling No. 54, Manila, 7x8½ inches	.32
No. 9	Ruling No. 57, Manila, 7x8½ inches	.32
No. 10	Ruling No. 57, Manila, 7x8½ inches	.32
No. 102	Ruling No. 5, Manila, 7x8½ inches	.32
No. 141	Ruling No. 1, White, 7x8½ inches	.50
No. 143	Ruling No. 2, White, 7x8½ inches	.50
No. 145	Ruling No. 5, White, 7x8½ inches	.50
No. 147	Ruling No. 7, White, 7x8½ inches	.50
No. 148	Ruling No. 8, White, 7x8½ inches	.50
No. 152	Ruling No. 52, White, 7x8½ inches	.50
No. 153	Ruling No. 53, White, 7x8½ inches	.50
No. 154	Ruling No. 54, White, 7x8½ inches	.50
No. 157	Ruling No. 57, White, 7x8½ inches	.50
No. 158	Ruling No. 50, White, 7x8½ inches	.50
No. 159	Ruling No. 3, White, 7x8½ inches	.50

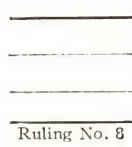
### Standard School Paper Rulings



Ruling No. 1



Ruling No. 3



Ruling No. 8



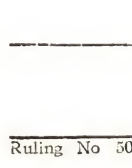
Ruling No. 53



Ruling No. 2



Ruling No. 50



Ruling No. 54



Ruling No. 57



Ruling No. 5



Ruling No. 52



Ruling No. 55



Ruling No. 56



## Composition Paper

Plain Heading, Plain Letter Ruled, All 8x10½ Inches.  
500 Sheets to the package.

	Price per package.
No. 84. Good white, medium weight.....	\$0.60
No. 85. Good white, medium weight, red marginal line .....	.60
No. 87. Good manila, heavy weight.....	.40
No. 88. Good manila, heavy weight, red marginal line .....	.40
No. 105. Good white, heavy weight.....	.70
No. 106. Good white, heavy weight, red marginal line .....	.70
No. 125. Good white, very heavy weight.....	.90
No. 126. Good white, very heavy weight, red marginal line.....	.90
No. 205. Good white, extra heavy weight.....	1.20
No. 206. Good white, extra heavy weight, red marginal line.....	1.20

## Examination Paper

500 Sheets to the Package.

	Price per package.
No. 550. 8½x10½ inches, fine white paper, red marginal lines, printed heading.....	\$1.10
No. 261. 9x12, fine white paper, red marginal lines, punched for filing, printed heading .....	1.60
No. 106X. 8x10½, fine white paper, red marginal lines, printed heading.....	1.00
No. 262-15. Examination tablet, 9x12, printed heading, special ruled and punched, 15 leaves, per 100 .....	6.40

## Foolscap and Legal Cap Paper

	Weight, 10 lbs.	12 lbs.	14 lbs.
Paragon .....	Per ream \$1.20	\$1.44	
Columbia .....	Per ream 1.35	1.62	\$1.90

Above furnished in single sheets at a slight advance.

## Standard Drawing Paper

500 Sheets to the Package.

	6x9 in. size. Per package.	9x12 in. size Per package.
No. 301. White .....	\$1.20	\$2.40
No. 304. White .....	.60	1.20
No. 305. Buff .....	.40	.80
No. 307. Gray .....	.70	1.40
No. 308. White .....	.50	1.00
No. 309. White .....	1.00	2.00
No. 310. White .....	.80	1.60
No. 311. Gray .....	.50	1.00
No. 312. White .....	1.00	2.00
No. 313. Gray .....	.84	1.68

## Standard Drawing Tablets

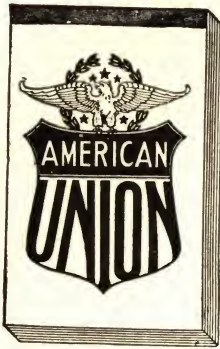
Tissue Interleaved.

No. 6310. 6x 9, 20 sheets, per 100.....	\$ 6.40
No. 9310. 9x12, 20 sheets, per 100.....	12.00

## Spelling Tablets

No. 80. 80 leaves, 2¾x9, ink writing paper. Per 100.....	\$4.20
No. 82. 60 leaves, 2¾x9, ink writing paper. Per 100.....	3.20

## Pencil Tablets



**No. 1100. Flag Assortment.**  
Size 5½x9 in. 100 sheets.  
Good news print paper. Beautiful assorted covers.  
Price, per doz. ....\$0.40  
Price, per 100..... 3.25



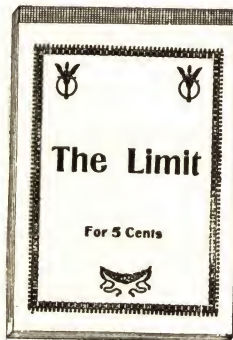
**No. 1110. Noble Charger.**  
Size 6x9 in. 110 sheets. Medium rough news print paper. Assorted covers.  
Price, per doz.....\$0.45  
Price, per 100..... 3.60



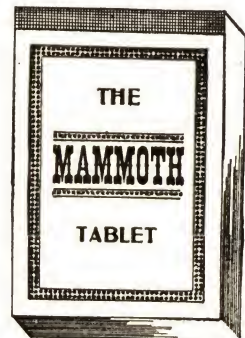
**No. 1120. Going Some.**  
Size 6x9 in. 130 sheets. Medium news print paper. Assorted covers in four colors.  
Price, per doz.....\$0.50  
Price, per 100..... 4.35



**No. 1130. Ocean Scenes.**  
Size 6x9 in. 140 sheets. High grade news print paper. Assorted lithographed covers.  
Price, per doz.....\$0.60  
Price, per 100..... 5.00



**No. 1140. The Limit.**  
Size 5½x9 in. 200 sheets. Good grade news print paper. Neat printed cover design.  
Price, per doz.....\$0.65  
Price, per 100..... 5.40



**No. 1150. The Mammoth.**  
Size 8x10 in. 90 sheets. High grade news print paper. Red printed cover design.  
Price, per doz.....\$0.60  
Price, per 100..... 4.75



**No. 1160. Banner Tablet.**  
Size 7¾x10¾ in. 80 sheets. High grade smooth news print paper. Green printed cover.  
Price, per doz.....\$0.55  
Price, per 100..... 4.35



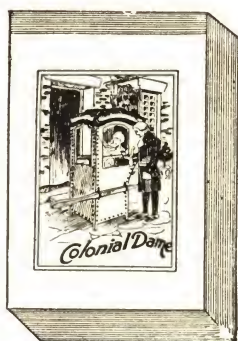
**No. 1170. Big Chief.**  
Size 8x12 in. 70 sheets. High grade rough news print paper. Red covers in gold and black.  
Price, per doz.....\$0.55  
Price, per 100..... 4.60



**No. 1200. Pen and Pencil Tablet.**  
Size 8½x10½ in. 70 sheets. Good grade paper. Handsome cover.  
Price, per doz.....\$0.65  
Price, per 100..... 5.30



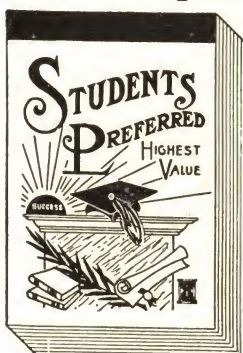
## Ink Tablets and Spelling Books



**Colonial Dame Ink Tablets.**

Fine white writing paper, ruled. Cover design in gold and colors.

	Size	Per 100
No. 1500.	5x 8 in. 72 sheets.	\$4.35
No. 1502.	8x10 in. 30 sheets.	4.35
Both sizes, per doz.		.55



**Students' Preferred Ink Tablets.**

High grade white writing paper, ruled. Attractive embossed covers.

	Size	Per 100
No. 1510.	5x 8 in. 70 sheets.	\$4.75
No. 1512.	8x10 in. 30 sheets.	4.75
Both sizes, per doz.		.60



**Certified Correct Ink Tablets.**

Very fine grade cream writing paper, ruled. Attractive cover.

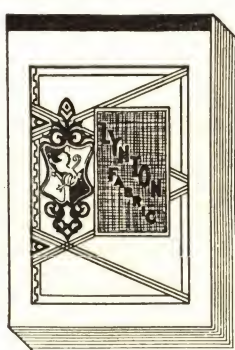
	Size	Per 100
No. 1520.	5x 8 in. 65 sheets.	\$5.15
No. 1522.	8x10 in. 26 sheets.	5.15
Both sizes, per doz.		.65



**Thelmar Ink Tablets.**

Superfine white wove paper, ruled. Beautiful embossed cover.

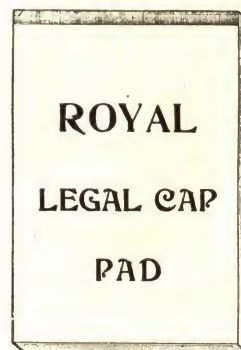
	Size	Per 100
No. 1530.	5x 8 in. 75 sheets.	\$8.15
No. 1532.	8x10 in. 31 sheets.	8.15
Both sizes, per doz.		1.00



**Lynton Ink Tablets.**

Wedding cloth finish writing paper. Beautiful embossed cover.

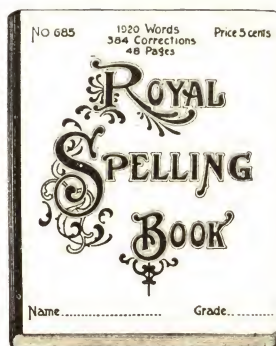
	Size	Per 100
No. 1540.	5x 8 in. 60 sheets.	\$8.15
No. 1542.	8x10 in. 24 sheets.	8.15
Both sizes, per doz.		1.00



**Royal Fools Cap Pad.**

Good quality fools cap paper. Three color blotter cover.

	Size	Per 100
No. 2000.	Size 8x12 in. 24 sheets.	
No. 3000.	Same as above, but legal cap.	
Price, per doz.		\$0.60
Price, per 100.		4.80



**No. 100. Royal Spelling Book.**

Size 7x8½ in. 28 sheets. Special ruled and printed for spelling.

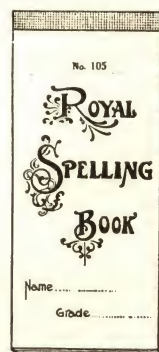
Price, per doz.	\$0.50
Price, per 100.	4.35



**No. 110. Columbian Spelling Tablet.**

72 sheets. Good quality paper. Two color cover.

Price, per doz.	\$0.50
Price, per 100.	4.35



**No. 120. Royal Spelling Tablet.**

50 sheets. Ruled and numbered for spelling.

Price, per doz.	\$0.50
Price, per 100.	4.35



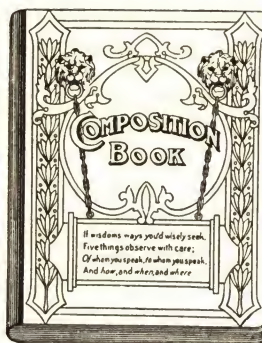
## Composition Books and Note Books



No. 5100. Royal Composition Book.

Size 7x8½ in. 108 pages. Very high grade paper. Marginal ruled.

Price, per doz.....\$0.65  
Price, per 100..... 5.00



No. 5200. Wisdom Ways.

Size 7x8½ in. 96 pages. High grade ruled paper. Attractive cover.

Price, per doz.....\$0.50  
Price, per 100..... 4.35



No. 5300. Golden Rule.

Size 7x8½ in. 96 pages. Best grade ruled paper. Handsome cover.

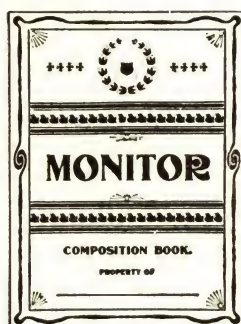
Price, per doz.....\$0.65  
Price, per 100..... 5.15



No. 5400. Academic.

Size 8x10 in. 60 pages. High grade ruled paper. Attractive cover.

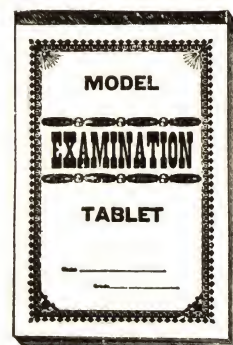
Price, per doz.....\$0.50  
Price, per 100..... 4.35



No. 5500. Monitor.

Size 8x10 in. 96 pages. Extra quality ruled paper.

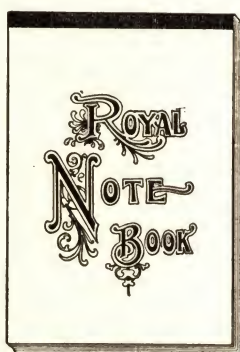
Price, per doz.....\$1.00  
Price, per 100..... 8.15



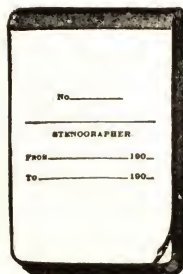
No. 1000. Examination Tablet.

Size 8½x12 in. 16 sheets. High grade white wove paper. Printed heading for examination.

Price, per doz.....\$0.55  
Price, per 100..... 4.35



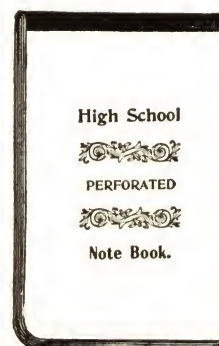
Royal Note Book.



No. 560. Stenographer.

Size 6x9 in. 72 sheets. Good grade news print paper.

Price, per doz.....\$0.45  
Price, per 100..... 3.45



No. 550. High School.

Size 6x9 in. 100 pages. Fine white ruled paper, perforated. Pressboard printed covers.

Price, per doz.....\$0.50  
Price, per 100..... 4.35

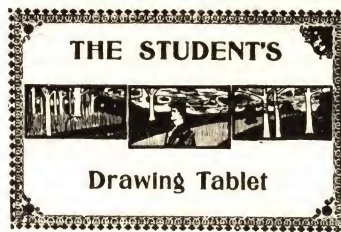
No. 500. 6x9, end fold, 60 leaves	Per doz.	\$0.65
No. 510. 6x9, side fold, 60 leaves		.65
No. 520. 5x8, end fold, 50 leaves		.50
No. 530. 4½x6¾, end fold, 72 leaves		.45
No. 540. 4½x6¾, side fold, 72 leaves		.45



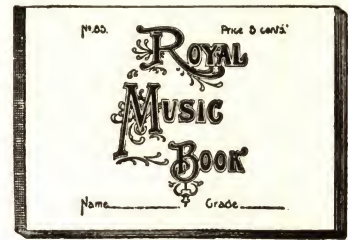
## Drawing Books



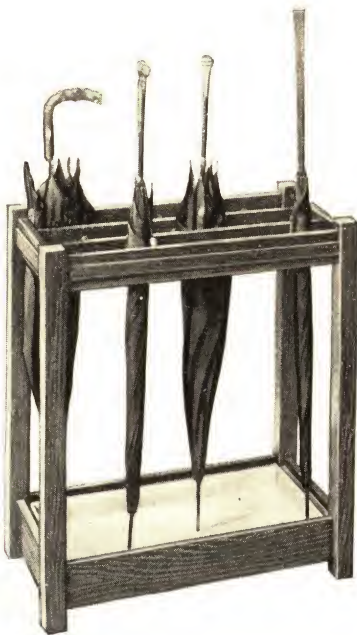
**No. 4000. Drawing Book**  
 Size, 6x9 in. 25 Sheets. Fine grade Water-color Drawing Paper. Pressboard cover, pulp back.  
 Price, per doz.....\$0.55  
 Price, per 100..... 4.50



**No. 4100. Drawing Tablet**  
 Size, 9x12 in. 16 Sheets. Best grade Drawing Paper. Press-board covers.  
 Price, per doz.....\$0.30  
 Price, per 100..... 4.35



**No. 4500 Music Book**  
 Size, 8x10½ in. 16 Sheets. High grade smooth pen paper. Attractive cover.  
 Price, per doz.....\$0.65  
 Price, per 100..... 5.10



## The Boston Umbrella Rack

Each teacher or active school officer will bear evidence that one of the most disagreeable problems given them to solve has been what to do with dripping umbrellas brought by the pupils.

The ordinary schoolroom has no place for them. You can't hang them up to drip on clothes or on the floor. You can't stand them in the corner to form a pool of water on the floor. What to do with them has been a question that has puzzled countless teachers.

**The Boston Umbrella Rack** solves the problem. It is in use in all the principal New England schools, and, as its fame extends, is rapidly becoming part of the equipment of every well ordered school. Just as necessary as the desks or anything else, and more so than some things.

As illustrated herewith, it has thirty-six compartments for umbrellas. Zinc-lined, rust-proof dripping pan to catch drippings. Regularly made of selected oak in four sizes as follows:

No. 1.	24x13, eighteen compartments.....	\$ 7.00
No. 2.	32x13, twenty-four compartments.....	9.00
No. 3.	24x17, twenty-four compartments.....	9.00
No. 4.	46x13, thirty-six compartments.....	10.00

All 28 inches high, each compartment 3x3 inches.



Stone Water Cooler

## STONE WATER COOLERS

Made of the finest quality stoneware by one of the largest manufacturers in the country, producing only goods that are recognized as the standard in their line. Have a fine white glazed finish, and are easily kept clean. Each jar is complete with cover and nickel-plated faucet.

## Prices—Water Coolers only

2-gallon, each.....	\$1.20
3-gallon, each.....	1.35
4-gallon, each.....	1.65
5-gallon, each.....	1.80
6-gallon, each.....	2.00
8-gallon, each.....	2.70
10-gallon, each.....	3.00



"Success" Sanitary Bubbling Cup and Water Cooler Combined

## "SUCCESS" SANITARY BUBBLING CUP AND WATER COOLER COMBINED

Dispenses entirely with drinking cups; lips do not touch any part of fount; absolutely no danger of infection. Clean, sanitary, economical of water; flow immediately ceases when lever is released.

## Prices

5-gallon cooler, complete.....	\$ 8.15
6-gallon cooler, complete.....	8.30
8-gallon cooler, complete.....	9.00
10-gallon cooler, complete.....	9.35
12-gallon cooler, complete.....	9.70
15-gallon cooler, complete.....	11.70
20-gallon cooler, complete.....	12.75

## METAL WATER COOLERS

This line of metal water coolers is the best that money could procure and are better value than any others on the market. The reservoir is made of heavy galvanized iron, easily kept clean, and will be found most serviceable in every respect. Japanned in assorted colors, handsomely decorated, and each one furnished complete with cover, side handles and self-closing push button faucet.

## Prices

2-gallon, each.....	\$2.25
3-gallon, each.....	2.75
4-gallon, each.....	3.35
6-gallon, each.....	3.85
8-gallon, each.....	5.00
10-gallon, each.....	6.00



## DRINKING CUPS

These cups are made of granite steel ware and are the climax of development in the manufacture of this class of goods. The enameling, done by a special process, is the most perfect attainable.

For sanitary reasons, each pupil should be furnished with an individual drinking cup, and these will be found to answer all requirements.

## Prices

Straight Cups, seamless, ½ pint, per doz.....	\$1.55
Straight Cups, seamless, 1 pint, per doz.....	2.05
Deep Cups, seamless, ½ pint, per doz.....	1.20
Deep Cups, seamless, 1 pint, per doz.....	1.55

Straight  
CupsDeep  
Cups



### LIQUID SOAP AND SOAP FOUNTAINS

These Fountains should be installed in every school building. Liquid Soap is cleaner to use, more convenient and less expensive than the ordinary kinds, and reduces the spreading of disease to a minimum. It is the highest grade toilet soap in liquid form, and the Fountain is the handsomest, most durable and perfect device on the market.

No loss by waste or theft, sanitary, hygienic and antiseptic.

Soap is of one grade and perfume only (Lavender). Fountains are of glass and non-corrosive metal heavily nickel-plated.

#### Prices

#### Liquid Soap—

Per gallon .....	\$2.25
15-gallon kegs, per gallon.....	1.50
Half barrels (30 gallons), per gallon.....	1.28
Barrels (50 gallons), per gallon.....	1.13

#### Fountains—

Each.....	4.00
Ten or more, each.....	3.60



### PAPER TOWELS

These towels are the outcome of a long and careful series of experiments, resulting in the discovery of a process for making a tough, soft, absorbent crepe tissue paper which serves admirably as a substitute for ordinary toweling.

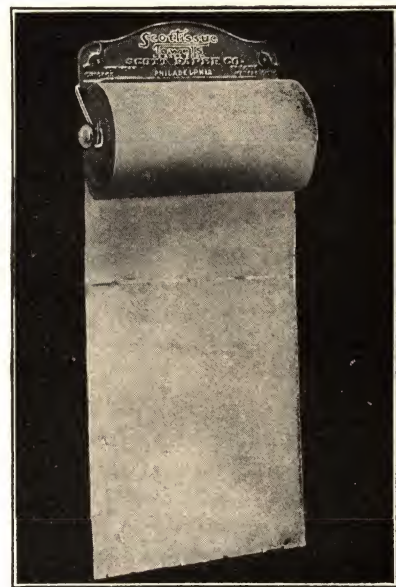
They are agreeable to the touch, and remove the moisture from the face and hands better than ordinary towels, because of their superior absorbent qualities.

The paper towel is the ideal for public use, being cheaper than the ordinary towel, more convenient, and absolutely hygienic.

It is conceded that the indiscriminate use of towels in public places is a menace to health, as they collect germs and help to spread disease. Paper towels solve this problem by providing a perfectly clean, fresh towel for every individual user.

Put up in rolls containing 150 towels, each measuring 11½ x 18 inches; 50 rolls to the case.

Price, per case .....	\$20.00
Fixtures, each .....	.50



### DUST CLOTHS

#### For Dusting, Cleaning, Polishing, Disinfecting

The best chemically treated dust cloth on the market. It gathers up and absorbs all dust with which it comes in contact. The dust will not drop off nor can it be shaken out, all the particles being held in the cloth until it becomes fully impregnated.

To clean the cloth all that is necessary is to wash in warm water and soap and then rinse. Washing does not impair the efficiency or destroy the chemical qualities of this cloth.

#### Prices

Medium size .....	Each.. \$0.20	Per doz.. \$2.00
Large size .....	Each.. .30	Per doz.. 3.40
Broom Covers .....	Each.. .35	Per doz.. 4.00



## Talking Machines

The use of the Talking Machine as an educational factor has been developed to such an extent that it is, today, as necessary a part of the up-to-date school equipment as blackboards, maps, globes, etc.

It has proven especially valuable as an aid in kindergarten games and dances, playground work, marches and calisthenics, as well as in the teaching and exemplification of music.

In the study of Reading, the Talking Machine will prove of the utmost assistance in teaching the pupils to concentrate their minds on the subject matter, instead of scanning the page rapidly for the thought, and paying very little attention to the real reading. Records can be furnished of standard poems and prose selections, found in every school reader, the subject matter being **read** into them, not "elo-cuted," bringing out the vocal expression with all its beauties of accent, inflection and tone color. These records will be found models which you will be glad to have your pupils imitate.



**Victor II—\$32.50**

Quartered oak cabinet, 13 $\frac{3}{8}$  x 13 $\frac{3}{8}$  x 6 $\frac{1}{2}$ .

In schools where there is no supervisor and music is not regularly taught, the Talking Machine will prove of inestimable value in thoroughly grounding the pupils in the principles of good reading and the correct interpretation of music. Progressive teachers find it of great assistance in supplementing and rounding out the regular music work, as it affords the pupils an opportunity to learn beautiful songs and great and good music interpreted by the foremost artists.

In addition to the regular school work in many cities and towns, there has been established social and recreation centers and night schools, and the Talking Machine is playing a large part in making the work effective and interesting.

Besides the complete list of records, special lists have been compiled as being best adapted for use in the schools, and copies will be mailed promptly on application. There has also been published a booklet entitled, "How to Use the Victor in the Schools," containing a large volume of useful and interesting information and instructions.

For use in grade schools, where the instrument is usually carried from room to room for teaching purposes, the Victor II with horn is recommended, while for high schools and colleges, where it may be placed in a lecture room and the classes assembled there for their music work, the Victrola X is well adapted.



**Victrola X \$75.00**

Catalogue of machines and accessories, complete up-to-date list of records, special lists of records adapted to school use, etc., furnished on request.

Mahogany or oak cabinet with record racks 41 $\frac{5}{8}$  inches high, 18 $\frac{1}{4}$  inches wide, 22 inches deep.

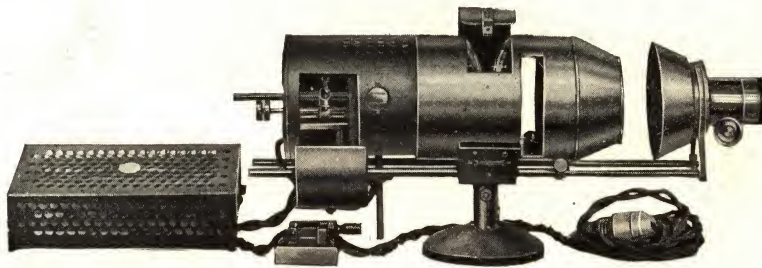


## Stereopticons

Our line of Stereopticons and Projection Apparatus has been designed and built especially for school use. Everything is standardized and the parts of one lantern are interchangeable with those of another.

The Stereopticon has proved an indispensable aid to educators and lecturers in demonstrating their subjects, and this method of illustrating lectures is very popular with the students, insuring full seats during the hours when the apparatus is employed. By its aid the educator can illustrate to an entire class the most delicate investigations into chemical, physical, electrical and pathological phenomena.

Lack of space prohibits a detailed description of the different lanterns. Write for special pamphlet describing Bench Lanterns, Opaque Projectors, Sciopticons and accessories.



## The Miopticon

The Miopticon is especially designed as a compact, neat lantern for use in small class rooms, Sunday schools, Y. M. C. A. lecture rooms, and places where a single lantern is sufficient to serve the purpose and produce results that will be satisfactory. It can be attached to any ordinary incandescent socket and is strong enough to operate at a distance of 60 feet from the screen, projecting up to a 10-foot picture.

High grade Projection Lens of 6 to 12-inch focus, mounted in  $1\frac{5}{8}$ -inch objective well finished, and with rack and pinion adjustment for focusing. Condenser Cell takes standard  $4\frac{1}{2}$ -inch condensing lenses, and is quickly opened to allow of cleaning or replacing lenses.

The Arc Lamp is centered and will never have to be adjusted, and the carbons are easily controlled by a positive mechanical screw action of the little hand wheels. The Lamp House is made of planished steel and slides back and forth on the rods so as to place it nearer to, or farther from, the condensing lenses.

The Lantern is mounted on a japanned base with an automatic adjustable clamp at the joint, so that it can be tilted up or down as desired.

The Rheostat has a capacity of 5 amperes, producing 1,000 candle power, is compact and neat, and is supplied with 16 feet of wire and double pole knife switch.

The Miopticon can also be equipped with a four-jet acetylene burner of the most approved type, and large reflector, instead of the arc lamp equipment, and the illumination will be very intense and brilliant.

If desired, we can furnish a handsome carrying case and tripod. Case measures  $20\frac{1}{2}'' \times 10\frac{1}{4}'' \times 6\frac{3}{4}''$ , divided into compartments for rheostat, objective, lantern, etc. The tripod is adjustable and is arranged to hold the rheostat and switch in convenient position. The case can be mounted on the tripod with the cover opening toward the operator, making a shelf for slides, and the lantern mounted above the case, making the most complete and compact portable outfit on the market.

### Prices

Miopticon, equipped with slide carrier, and choice of 6, 8, 10 or 12-inch focus objective in $1\frac{5}{8}$ -inch mounts; fitted for either arc lamp or acetylene burner.....	\$35.00
Tripod.....	7.50
Case.....	5.00



## School Wagons



The best and most practical School Wagon now on the market, and absolutely guaranteed as to strength and durability. The pointed shape or vestibule front of body is a distinct improvement over other makes or styles as it provides better storm protection, causes less wind resistance and affords greater range of vision for the driver, thus adding to the safety of occupants.

The body is furnished in 10 and 12-foot lengths, not including the vestibule front, and is 4 feet wide; regularly painted Brewster green—a very dark green, almost black. Paneling of body, metal and wood, being wood paneling up to seats and 26-gauge sheet metal up to windows, making a considerably lighter wagon than any other make of like capacity, while obtaining the maximum of strength and durability.

The driver's seat is removable, is made with a back and both back and seat are trimmed with a good quality of moroccoline leather. Children's seats fitted with good, stout cushions and backs, upholstered with moroccoline leather; backs and cushions are removable and can readily be taken out for cleaning and renovating.

The 10-foot wagon will accommodate from 15 to 20 passengers, and the 12-foot wagon from 18 to 24 passengers.

Gear is the combination pattern, triple elliptic springs in front, platform springs in rear. Axles and wheels, 1¼-inch; wheels, 40 and 44 inches high; suitable pole. Color of gear is red. The very best of stock and workmanship throughout.

Two-piece roll-up side curtains that button close when down. These curtains and the deck or roof covering are made of best quality, heavy, waterproof, black duck.

Stoves, brakes and wider felloes or rims are charged for extra.

### Prices

10-foot Wagon .....	\$225.00
12-foot Wagon .....	237.00
Ferral pat. Brake.....	32.00
Common or roll bar Brake.....	25.00
Wide Felloes or rims from 1½ inches to 2½ inches, inclusive	10.00





## Program Clocks

### READYSHIFT

(Pat. App. For)



Height 40½ in., width 16½ in.,  
dial 10 in.

	0	5	10	15	20	25	30	35	40	45	50	55	0	5	10	15	20	25	30	35	40	45	50	55
	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
6 →	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
8 →	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
10 →	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
12 →	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2 →	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
4 →	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
	0	5	10	15	20	25	30	35	40	45	50	55	0	5	10	15	20	25	30	35	40	45	50	55

Time Switchboard

The Readyshift Program Clock is especially adapted for use in small and medium sized schools.

It consists of an eight-day regulator, 80-beat pendulum, dead-beat escapement, with program device and time switchboard, all contained in neat and substantial cabinet.

The switchboard is mounted in lower part of cabinet, where it is handy and accessible. Schedule of programs is easily set by inserting contact plugs on switchboard, where minutes of the day are plainly marked. The program is set up and changed readily on the switchboard without disturbing the clock or program mechanism. A special new type of switch eliminates the relay and its inherent contact troubles. Standard models are arranged for periods of any multiple of 5 or 2½-minute intervals. Signals are automatically silenced during any periods when not desired.

The switchboard cut illustrates the program device used in the Model C512 and is arranged for single program of the 5-minute schedule for 12 consecutive hours. This model is used for group of bells all ringing on same schedule. Horizontal bars represent the hours and the vertical bars the minutes. The contact plugs are set in the holes provided for at intersection of the minute and hour bars, and as shown in cut are set to ring signals at 8:55, 9:00, 9:40, 10:20, 10:35, 10:40 and 11:20 A. M., 12 M., 1:25, 1:30, 2:10, 2:50 and 3:30 P. M.

Wiring diagrams and complete instructions for bell circuits furnished on application.

Prices include Program Clock complete with switchboard, program push buttons and snapswitch, ready for connection to bell system.

Cabinets furnished in quartered oak and mahogany. When ordering state model number and finish of cabinet.

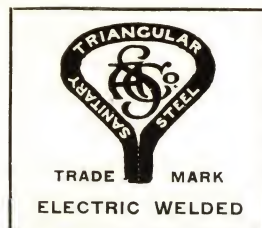
### Prices of Standard Models

Model No.	Consecutive Hours.	Interval of Signals.	No. of Programs.	Price.
C512	12 hrs.	5 min.	One	\$ 75.20
CC512	12 hrs.	5 min.	Two	90.25
C524	24 hrs.	5 min.	One	82.70
CC524	24 hrs.	5 min.	Two	105.30
C2512	12 hrs.	2½ min.	One	82.70
CC2512	12 hrs.	2½ min.	Two	105.30
C2524	24 hrs.	2½ min.	One	97.75
CC2524	24 hrs.	2½ min.	Two	135.35
CCC512	12 hrs.	5 min.	Three	112.80
CCC524	24 hrs.	5 min.	Three	127.85



# AMERICAN STEEL SANITARY DESKS

WARRANTED UNBREAKABLE. MORE  
PERMANENT THAN YOUR BUILDING



In this "age of steel," owing to our recent inventions, methods of organization, employment of labor-saving machinery, we are prepared, with the completion of one of the finest steel plants and machine shops, to furnish AMERICAN STEEL SANITARY DESKS, guaranteed for a lifetime, and at prices no higher than formerly asked for the best product in cast iron. *Write for descriptive booklet, giving prices, and table of sizes. It also tells why these desks are absolutely sanitary and unbreakable.*



AUTOMATIC STATIONARY TYPE

## WHAT IS AMERICAN STEEL?

Our steel differs from cast, wrought and "T" iron or steel due to the amount of carbon and other ingredients used in its composition, thus securing the requisite toughness, tenacity, hardness and elasticity. We use the best American Sheet Steel, pickled and cold rolled, formed into the *triangular* shape under tremendous pressure by special machinery designed for this purpose. Our *triangular* form of construction (see Trade Mark) was adopted after most exhaustive tests, it being a well-known scientific fact that the triangle is the most important figure in geometry and may be considered the element of all other figures. Our methods of steel fabrication are original with us by the use of special machines, presses and steel dies, insuring lightness, strength and rigidity. The manufactured product is then electrically welded into one solid, indestructible, finished article. It eliminates all sharp edges and bacteria pockets. It is *self-evident* that we do not *merely buy the rough steel* and *assemble* it by bolts or rivets. Our steel has been subjected to every well-known scientific test to determine its tensile, breaking and abrasive or friction qualities, and will withstand extraordinary conditions of usage.

## WHY OUR DESKS ARE SANITARY

Hygienic, sanitary desks are today demanded, and our *triangular* form of steel construction affords no lodgment for dust or dirt. All filigree work so necessary in cast-iron construction has been abandoned, all book boxes, with the exception of the tops and bottoms, being made of one solid piece of steel, giving more room and security for school utensils. The feet of the desks are shaped and cold drawn from the triangular steel standards and occupy the minimum amount of floor space, and, having turned flanges, afford a close, tight-fitting, substantial joint and support on the floor. This permits no opportunity for the accumulation of dirt and bacteria. The same dust cloth used on the tops will cleanse the metal work from every particle of dust.



ADJUSTABLE DESK WITH  
ADJUSTABLE CHAIR

## GUNMETAL FINISH

All steel parts are finished in our new sanitary gunmetal Enamel which produces a smooth, velvety finish which is most attractive. Our *gunmetal* finish avoids all reflected light so objectionable in the ordinary high-luster black japan cast-iron desk.

## PRACTICAL SAVINGS

With the adoption of AMERICAN STEEL SANITARY DESKS there is a distinct saving in transportation charges. In addition to this there are the added economies due to entire elimination of breakage in transit, labor in setting up, and in usage, and the annoyance and time consumed in obtaining repairs.

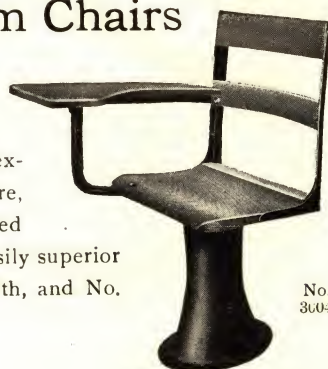
**AMERICAN STEEL SANITARY DESKS ARE UNCONDITIONALLY  
GUARANTEED AGAINST BREAKAGE FOR A LIFETIME**

WRITE FOR DESCRIPTIVE BOOKLET



## American Steel Pedestal Tablet Arm Chairs

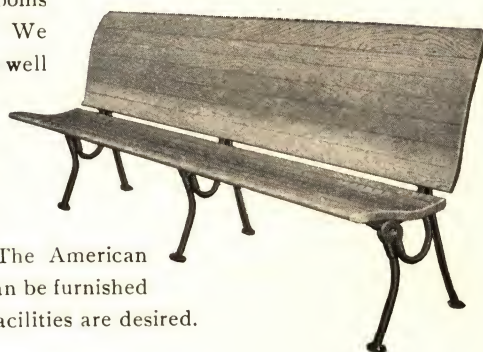
The chair illustrated herewith is one of the American Steel Tablet Arm Chairs now being offered to the discriminating buyer by the American Seating Company, and is one of the most modern products of its new and exclusive processes for the manufacture of a perfect line of School Furniture, built from the floor up for you, and built of materials especially manufactured for this purpose. For comfort, utility and appearance, these chairs are easily superior to any other chairs ever built. Made in two styles: No. 3004, shown herewith, and No. 3002, which is larger and has full built-up back with heavy roll top.



No.  
3004

## American Steel Recitation Seats

Recitation seats are convenient for small lecture rooms and for supplementing the regular seating of a classroom. We build the ordinary recitation seat with cast-iron standards, as well as our American Steel Recitation Seat. The latter has standards formed of our famous sanitary triangular steel tubing—the strongest construction known. All steel parts are united by electric welding and are finished in gunmetal enamel. Seat and back are of hardwood, regularly finished in American Seating Company's standard cherry stain. The American Steel Recitation Seats are built in 4 and 6 foot lengths and can be furnished with stationary tablet arms (at an extra cost) where writing facilities are desired.



## American Steel Adjustable Commercial Desk

For business colleges and schools having commercial courses, the ordinary styles and sizes of desks prove inadequate. For this purpose we have designed the American Steel Adjustable Commercial Desk with separate adjustable settee (or chair). The standards are of sanitary triangular steel tubing. All metal parts are united by electric welding and are finished in gunmetal enamel. The sides of the book boxes are of cold rolled steel.

Can be furnished with adjustable single pedestal chair instead of settee if desired.

Made regularly in maple, cherry finish, in two sizes:

SIZE X. Top 21 x 26 in. Height of top adjustable between 27¼ in. and 32¾ in.

SIZE XX. Top 22 x 30 in. Height of top adjustable between 27¼ in. and 32¾ in.



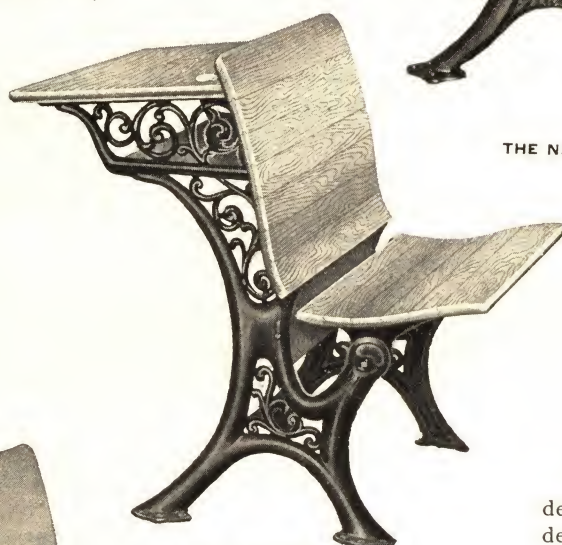
## Desks with Cast Iron Standards

In addition to our American Steel Sanitary Desks, we manufacture what is generally conceded to be the finest line of desks with cast iron standards, on the market. We supply more desks of this type than all other manufacturers combined, and the preference given our products is due entirely to their numerous points of superiority in design and construction.

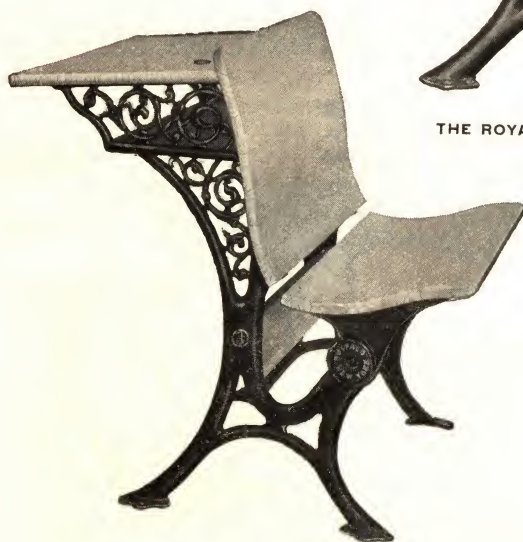
These desks are made entirely in our own factory, of the very best raw materials obtainable. This point is worthy of recognition by the prospective purchaser, owing to the fact that many school desk manufacturers buy castings from outside foundries and therefore cannot produce a desk that is equal to the one made complete in the same factory.



THE NEW VICTOR



THE ROYAL AUTOMATIC



THE AUTOMATIC TRIUMPH

The castings of all our desks are very attractive in design, made from the very best quality of pig iron, proportioned so as to give the greatest strength without a clumsy appearance, and finished with high-grade japan thoroughly baked and precluding the possibility of its chipping off, and giving them a beautiful lustre. The woods are made from the best selected, thoroughly seasoned, kiln-dried hard maple, and are constructed of narrow slats with a perfect tongue and groove joint set in glue. These desks are regularly finished with solid maple woods stained a rich cherry. Can also be furnished with the seat and backs finished in the natural color of the wood and the top stained cherry.

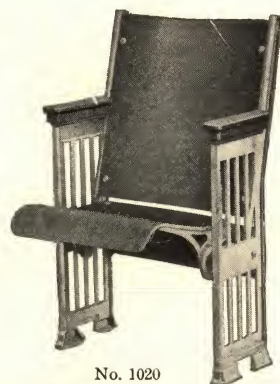
WRITE FOR LITERATURE MORE FULLY DESCRIPTIVE OF OUR CAST IRON DESKS



## Auditorium and Assembly Seating

Many of the larger schools throughout the country are now being equipped with well-appointed auditoriums seated with stationary metal-frame chairs of the opera chair type. The seating is of course subjected to considerable hard usage, and, too frequently, downright abuse. It is therefore a matter of importance to secure furniture that will successfully withstand the wear and tear of even the most extreme conditions, and thus avoid annoyance and expense due to breakage. Aside from the matter of ultimate economy, properly constructed auditorium chairs are so designed as to reduce noise to a minimum, which is an important consideration from the point of discipline and order.

As we have long studied the requirements for the seating of school auditoriums and are specialists in this direction, we are in position to offer valuable suggestions and information to school boards and architects. We submit samples where desired and will develop seating plans without charge, to show not only the exact number of sittings required, but also the most effective arrangement in point of convenience and safety.



No. 1020  
CHAIR WITH CAST-IRON  
STANDARDS

## American Steel Assembly Chairs



No. 3001

AMERICAN STEEL  
ASSEMBLY CHAIR

Our American Steel Assembly Chairs, one style of which is shown here-with, are built of our triangular steel tubing, which eliminates all possibility of breakage. The chairs are equipped with noiseless steel semi-automatic hinges. The woods are of built-up hardwood, regularly finished in a rich antique mahogany, which harmonizes well with any color scheme which may predominate in the decoration of the room.

In addition to the American Steel Assembly Chairs, we manufacture a large line of chairs with cast-iron standards in a wide range of styles and prices.

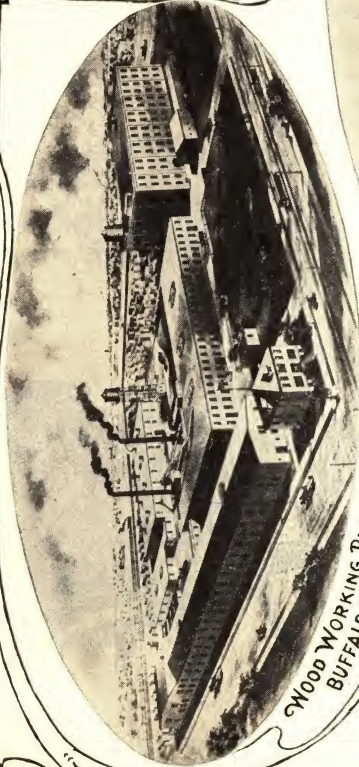
## Folding Portable Chairs

For small lecture rooms and in assemblies where it is desired that the floor be cleaned readily, folding portable chairs are the most convenient form of seating. They are light but durable, and possess the advantage of requiring but small storage space when not in use. We produce a large line of such chairs in our own factory, and have incorporated certain features in their construction which make them far superior to chairs of less careful manufacture. Millions of our chairs are now in daily use.

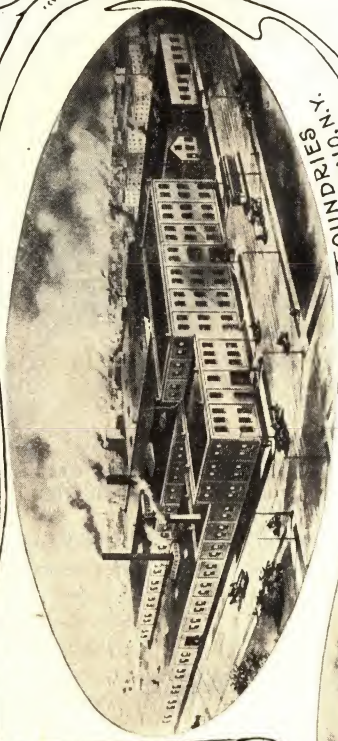


No. 200

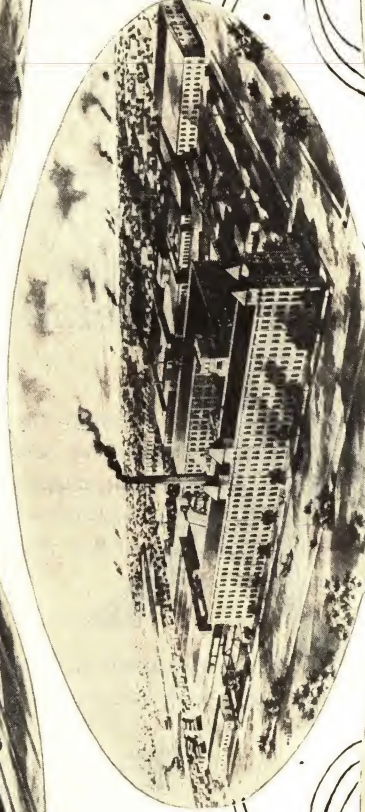




WOOD WORKING PLANT  
BUFFALO N.Y.



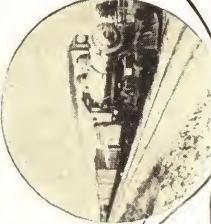
FOUNDRIES  
BUFFALO N.Y.



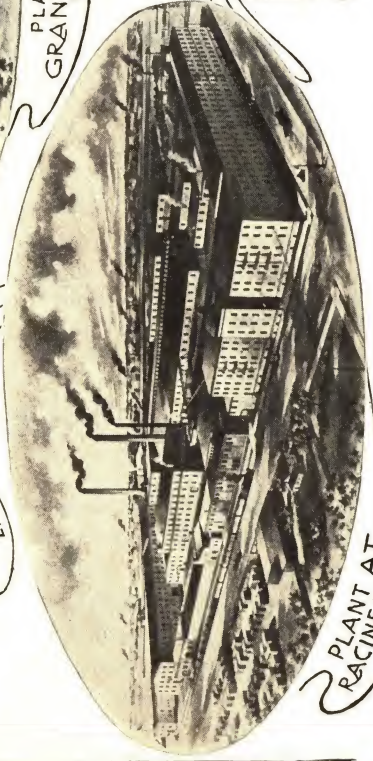
PLANT AT  
GRAND RAPIDS  
MICH.



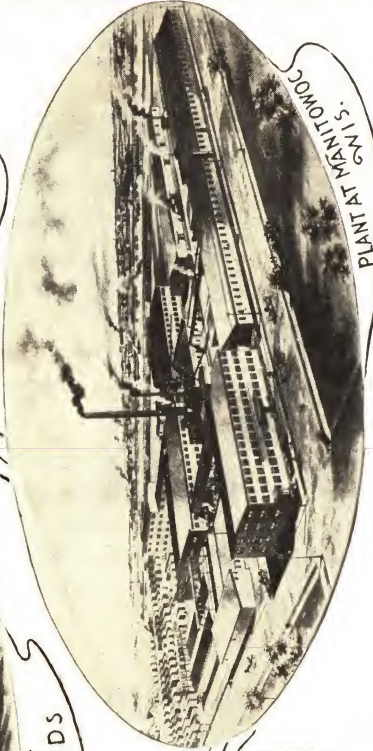
BOAT  
LINES



RAILROAD  
LINES



PLANT AT  
RACINE WIS.



PLANT AT MANITOWOC  
WIS.

These are photographic views of the plants owned and operated by the AMERICAN SEATING COMPANY  
devoted exclusively to the manufacture of public seating.



